Requester

Name: SOROUSH, LAYLA <http://es.uspto.gov/emlocator/runEmployeeQry.do?action=ListEmployeeByEmpNo&empNo=
Organization: TC 1600
Art Unit: 1627
Employee Number:
Office Location: REM-4B15
Phone Number: (571)272-5008
Email: Layla.Soroush@uspto.gov <mailto:Layla.Soroush@uspto.gov?Subject=1600 Search Request>

Request Detail

Attachment: No

Case/Application number: 10680881 PALM <http://expoweb1:8001/cgi-bin/expo/GenInfo/snquery.pl?APPL_ID=10680881>
Priority App. Filing Date:
Format for Search Results: EMAIL

Identify the novelty:
Please search a method of treating ulcerative colitis with the compound of formula (of claim 1).

Thanks

INVENTOR SEARCH

```
=> fil hcapl; d que nos l19; fil uspatf; d que nos l29; dup rem l19,l29
FILE 'HCAPLUS' ENTERED AT 15:44:45 ON 17 DEC 2009
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FILE COVERS 1907 - 17 Dec 2009  VOL 151 ISS 25
FILE LAST UPDATED: 16 Dec 2009  (20091216/ED)
REVISED CLASS FIELDS (/NCL) LAST RELOADED:  Oct 2009
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE:  Oct 2009

HCAplus now includes complete International Patent Classification (IPC)
reclassification data for the third quarter of 2009.

CAS Information Use Policies apply and are available at:

http://www.cas.org/legal/infopolicy.html

This file contains CAS Registry Numbers for easy and accurate
substance identification.
'OBI' IS DEFAULT SEARCH FIELD FOR 'HCAPLUS' FILE


L4                STR
L6             28 SEA FILE=REGISTRY SSS FUL L4
L8              1 SEA FILE=HCAPLUS SPE=ON  ABB=ON  US2003-680881/APPS
L9           1286 SEA FILE=HCAPLUS SPE=ON  ABB=ON  DELUCA H?/AU
L10            49 SEA FILE=HCAPLUS SPE=ON  ABB=ON  CANTORNA M?/AU
L11            89 SEA FILE=HCAPLUS SPE=ON  ABB=ON  L6
L12         71505 SEA FILE=HCAPLUS SPE=ON  ABB=ON  INTESTINAL DISEASE+OLD,NT/CT
L13         15538 SEA FILE=HCAPLUS SPE=ON  ABB=ON  INFLAM?/OBI(L)(BOWEL#/OBI OR
                  INTESTINE#/OBI)
L14          9083 SEA FILE=HCAPLUS SPE=ON  ABB=ON  (COLON/OBI OR COLITIS/OBI)(L)U
                  LCER?/OBI
L15         10557 SEA FILE=HCAPLUS SPE=ON  ABB=ON  CROHN?/OBI
L16         13684 SEA FILE=HCAPLUS SPE=ON  ABB=ON  COLITIS/OBI
L19            11 SEA FILE=HCAPLUS SPE=ON  ABB=ON  (L9 AND L10 AND L11) OR ((L8
                  OR L9 OR L10) AND L11 AND (L12 OR L13 OR L14 OR L15 OR L16))



FILE 'USPATFULL' ENTERED AT 15:44:46 ON 17 DEC 2009
CA INDEXING COPYRIGHT (C) 2009 AMERICAN CHEMICAL SOCIETY (ACS)

FILE COVERS 1971 TO PATENT PUBLICATION DATE: 17 Dec 2009 (20091217/PD)
FILE LAST UPDATED: 17 Dec 2009 (20091217/ED)
HIGHEST GRANTED PATENT NUMBER: US7634817
HIGHEST APPLICATION PUBLICATION NUMBER: US20090313735
CA INDEXING IS CURRENT THROUGH 17 Dec 2009 (20091217/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 17 Dec 2009 (20091217/PD)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Oct 2009
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Oct 2009

USPATFULL now includes complete International Patent Classification (IPC)
reclassification data for the third quarter of 2009.

To ensure comprehensive retrieval of US patent information, including
US patent application information, search USPATFULL in combination with
USPAT2.


L4                STR
L6             28 SEA FILE=REGISTRY SSS FUL L4
L22            75 SEA FILE=USPATFULL SPE=ON  ABB=ON  L6
L23         24135 SEA FILE=USPATFULL SPE=ON  ABB=ON  INFLAM?(2A)(BOWEL# OR
                  INTESTINE#)
L24          6400 SEA FILE=USPATFULL SPE=ON  ABB=ON  (INFLAM?(2A)(BOWEL# OR
                  INTESTINE#))/IT
L25         24537 SEA FILE=USPATFULL SPE=ON  ABB=ON  CROHN? OR CROHN?/IT
L26         24809 SEA FILE=USPATFULL SPE=ON  ABB=ON  COLITIS OR COLITIS/IT
L27          3188 SEA FILE=USPATFULL SPE=ON  ABB=ON  (INTESTIN? OR COLON)(3A)ULCE
                  R?
L28          3559 SEA FILE=USPATFULL SPE=ON  ABB=ON  ((INTESTIN? OR COLON)(3A)ULC
                  ER?)/IT
L29            21 SEA FILE=USPATFULL SPE=ON  ABB=ON  L22 AND (L23 OR L24 OR L25
                  OR L26 OR L27 OR L28)



FILE 'HCAPLUS' ENTERED AT 15:44:46 ON 17 DEC 2009
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FILE 'USPATFULL' ENTERED AT 15:44:46 ON 17 DEC 2009
CA INDEXING COPYRIGHT (C) 2009 AMERICAN CHEMICAL SOCIETY (ACS)
PROCESSING COMPLETED FOR L19
PROCESSING COMPLETED FOR L29
L33            24 DUP REM L19 L29 (8 DUPLICATES REMOVED)
                  ANSWERS '1-11' FROM FILE HCAPLUS
                  ANSWERS '12-24' FROM FILE USPATFULL

=> d ibib abs hitind hitstr 1-11; d ibib abs kwic hitstr 12-24

L33  ANSWER 1 OF 24  HCAPLUS  COPYRIGHT 2009 ACS on STN DUPLICATE 1
ACCESSION NUMBER:         2008:1457343  HCAPLUS  Full-text
DOCUMENT NUMBER:          150:20300
TITLE:                    Synthesis of (20R)-2α-Methyl-19,26,27-Trinor-
                          Vitamin D Analogs
INVENTOR(S):              Deluca, Hector F.; Grzywacz, Pawel; Plum,
                          Lori A.; Clagett-Dame, Margaret
PATENT ASSIGNEE(S):       USA
SOURCE:                   U.S. Pat. Appl. Publ., 22pp., Cont.-in-part of U.S.
                          Ser. No. 697,434.
                          CODEN: USXXCO
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
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FAMILY ACC. NUM. COUNT:  10
PATENT INFORMATION:

     PATENT NO.          KIND   DATE       APPLICATION NO.        DATE
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     US 20080300223       A1    20081204   US 2008-171085         20080710
     US 20070238704       A1    20071011   US 2007-697434         20070406
     AU 2007298673        A1    20080327   AU 2007-298673         20070406
     CA 2646911           A1    20080327   CA 2007-2646911        20070406
     EP 2021320           A2    20090211   EP 2007-859048         20070406
         R:  AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
             IS, IT, LI, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR,
             AL, BA, HR, MK, RS
     JP 2009532460        T     20090910   JP 2009-503692         20070406
     MX 2008012671        A     20081015   MX 2008-12671          20081002
PRIORITY APPLN. INFO.:                     US 2006-744386P     P  20060406
                                           US 2007-697434      A2 20070406
                                           WO 2007-IB3919      W  20070406
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OTHER SOURCE(S):         CASREACT 150:20300; MARPAT 150:20300
AB    This invention discloses the preparation of (20R)-2α-methyl-19,26,27-trinor-
      vitamin D analogs, and specifically (20R)-2α-methyl-19,26,27-trinor-1α,25-
      dihydroxyvitamin D3, and pharmaceutical uses.  This compound exhibits
      transcription activity as well as pronounced activity in arresting the
      proliferation of undifferentiated cells and inducing their differentiation to
      the monocyte thus evidencing use as an anti-cancer agent and for the treatment
      of skin diseases such as psoriasis as well as skin conditions such as
      wrinkles, slack skin, dry skin and insufficient sebum secretion.  This
      compound also shows very low activity in vivo on bone calcium mobilization and
      intestinal calcium transport activity compared to the native hormone 1α,25-
      dihydroxyvitamin D3, and therefore may be used to treat autoimmune disorders
      or inflammatory diseases in humans as well as renal osteodystrophy.  This
      compound may also be used for the treatment or prevention of obesity.
INCL 514167000; 552653000
CC   32-8 (Steroids)
     Section cross-reference(s): 63
IT   Anti-inflammatory agents
     Antiasthmatics
     Antidiabetic agents
     Antiobesity agents
     Antirheumatic agents
     Antitumor agents
     Asthma
     Cell differentiation
       Colon neoplasm
     Diabetes mellitus
     Domestic animal
     Human
       Inflammatory bowel disease
     Leukemia
     Livestock
     Lupus erythematosus
     Mammary gland, neoplasm
     Multiple sclerosis
     Nasal drug delivery systems
     Obesity
     Oral drug delivery systems
     Parenteral drug delivery systems
     Prostate gland, neoplasm
```

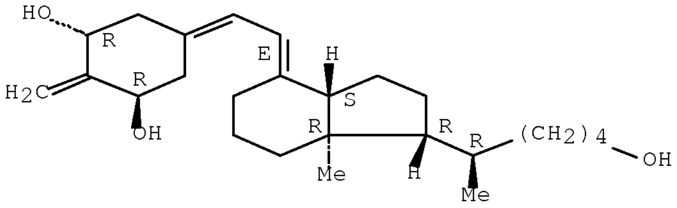
Psoriasis
Rectal drug delivery systems
Rheumatoid arthritis
Skin
Skin, neoplasm
Sublingual drug delivery systems
Topical drug delivery systems
Transcription, genetic
Transdermal drug delivery systems
Transplant rejection
(synthesis of (20R)-2α-methyl-19,26,27-trinor-1α,25-dihydroxyvitamin and pharmaceutical use)

IT 64190-52-9P 141245-56-9P 235107-95-6P 235107-96-7P 300344-32-5P 321909-21-1P 951769-50-9P 951769-51-0P 951769-52-1P 951769-53-2P 951769-54-3P 952061-87-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis of (20R)-2α-methyl-19,26,27-trinor-1α,25-dihydroxyvitamin and pharmaceutical use)

IT 952061-87-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis of (20R)-2α-methyl-19,26,27-trinor-1α,25-dihydroxyvitamin and pharmaceutical use)

RN 952061-87-9 HCAPLUS
CN 1,3-Cyclohexanediol, 2-methylene-5-[(2E)-2-[(1R,3aS,7aR)-octahydro-1-[(1R)-5-hydroxy-1-methylpentyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, (1R,3R)- (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L33 ANSWER 2 OF 24 HCAPLUS COPYRIGHT 2009 ACS on STN DUPLICATE 2

ACCESSION NUMBER:	2007:1151807 HCAPLUS Full-text
DOCUMENT NUMBER:	147:427587
TITLE:	Preparation of 2-methylene-1α,25-dihydroxy-19,21-dinorvitamin D3 analogs as pharmaceuticals
INVENTOR(S):	Deluca, Hector F.; Plum, Lori A.; Clagett-Dame, Margaret; Barycki, Rafal
PATENT ASSIGNEE(S):	Wisconsin Alumni Research Foundation, USA
SOURCE:	U.S. Pat. Appl. Publ., 21 pp. CODEN: USXXCO
DOCUMENT TYPE:	Patent
LANGUAGE:	English
FAMILY ACC. NUM. COUNT:	10
PATENT INFORMATION:	

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        US 20070238706       A1    20071011    US 2007-697439         20070406
        AU 2007234717        A1    20071018    AU 2007-234717         20070406
        CA 2648324           A1    20071018    CA 2007-2648324        20070406
        WO 2007118198        A2    20071018    WO 2007-US66154        20070406
        WO 2007118198        A3    20080103
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                GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM,
                KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, MG, MK,
                MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO,
                RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT,
                TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW, ME
            RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
                IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF,
                BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW,
                GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,
                BY, KG, KZ, MD, RU, TJ, TM, AP, EA, EP, OA
        EP 2046737           A2    20090415    EP 2007-760256         20070406
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                AL, BA, HR, MK, RS
        MX 2008012912        A     20081126    MX 2008-12912          20081006
PRIORITY APPLN. INFO.:                         US 2006-744379P     P  20060406
                                               WO 2007-US66154     W  20070406
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OTHER SOURCE(S):         CASREACT 147:427587; MARPAT 147:427587
GI
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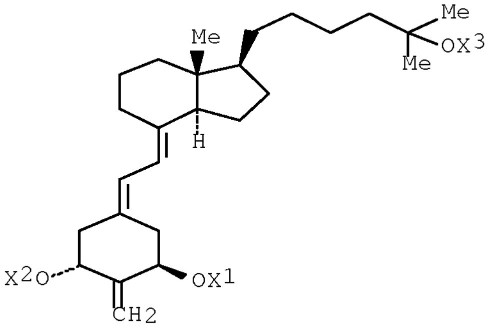


I

```
AB    Vitamin D analogs of formula I [X1-X3 = H, protecting groups] are prepared
      Such compds. are used in preparing pharmaceutical compns. and are useful in
      treating a variety of biol. conditions.  Thus, DJ-62 (I; X1 = X2 = X3 = H) was
      prepared in several steps, and was more active than 1α,25-dihydroxyvitamin D3
      in inducing differentiation of HL-60 cells.
INCL 514063000; 514167000; 552653000
CC   32-7 (Steroids)
     Section cross-reference(s): 2, 63
IT   Anti-inflammatory agents
     Antiarthritics
     Antiasthmatics
     Antidiabetic agents
     Antiobesity agents
```

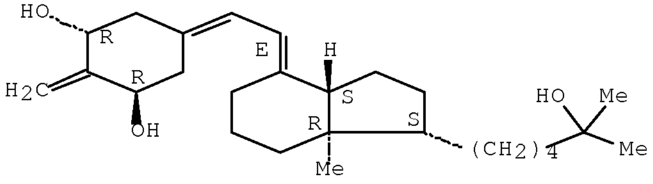
Antiosteoporotic agents
Antitumor agents
Asthma
Celiac disease
Colon neoplasm
Crohn disease
Diabetes mellitus
Human
Inflammation
Inflammatory bowel disease
Leukemia
Lung, neoplasm
Lupus erythematosus
Mammary gland, neoplasm
Multiple sclerosis
Nasal drug delivery systems
Obesity
Oral drug delivery systems
Osteoporosis
Parenteral drug delivery systems
Prostate gland, neoplasm
Psoriasis
Rectal drug delivery systems
Rheumatoid arthritis
Skin, neoplasm
Sublingual drug delivery systems
Topical drug delivery systems
Transdermal drug delivery systems
Transplant rejection
Ulcerative colitis
(preparation of methylenedihydroxy dinorvitamin D3 analogs as pharmaceuticals)

IT 951407-27-5P, TP 62
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of methylenedihydroxy dinorvitamin D3 analogs as pharmaceuticals)

IT 951407-27-5P, TP 62
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of methylenedihydroxy dinorvitamin D3 analogs as pharmaceuticals)

RN 951407-27-5 HCAPLUS
CN 1,3-Cyclohexanediol, 2-methylene-5-[(2E)-2-[(1S,3aS,7aR)-octahydro-1-(5-hydroxy-5-methylhexyl)-7a-methyl-4H-inden-4-ylidene]ethylidene]-, (1R,3R)- (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



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L33  ANSWER 3 OF 24  HCAPLUS  COPYRIGHT 2009 ACS on STN DUPLICATE 3
ACCESSION NUMBER:        2007:1151829  HCAPLUS  Full-text
DOCUMENT NUMBER:         147:427589
TITLE:                   Preparation of
                         2-methylene-1α,25-dihydroxy-18,19,21-
                         trinorvitamin D3 as a pharmaceutical
INVENTOR(S):             DeLuca, Hector F.; Plum, Lori A.;
                         Clagett-Dame, Margaret; Barycki, Rafal
PATENT ASSIGNEE(S):      USA
SOURCE:                  U.S. Pat. Appl. Publ., 23 pp.
                         CODEN: USXXCO
DOCUMENT TYPE:           Patent
LANGUAGE:                English
FAMILY ACC. NUM. COUNT:  10
PATENT INFORMATION:

     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
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     US 20070238705       A1    20071011    US 2007-697436         20070406
     CA 2639585           A1    20071006    CA 2007-2639585        20070406
     AU 2007349772        A1    20081023    AU 2007-349772         20070406
     WO 2008125901        A2    20081023    WO 2007-IB3971         20070406
     WO 2008125901        A3    20081204
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             CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB,
             GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM,
             KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG,
             MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT,
             RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR,
             TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
         RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
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             BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW,
             GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,
             BY, KG, KZ, MD, RU, TJ, TM, AP, EA, EP, OA
     EP 2021321           A2    20090211    EP 2007-873328         20070406
         R:  AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
             IS, IT, LI, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR,
             AL, BA, HR, MK, RS
     JP 2009533483        T     20090917    JP 2009-508549         20070406
     MX 2008012913        A     20090306    MX 2008-12913          20081006
PRIORITY APPLN. INFO.:                      US 2006-744385P     P  20060406
                                            WO 2007-IB3971      W  20070406
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OTHER SOURCE(S):         CASREACT 147:427589; MARPAT 147:427589
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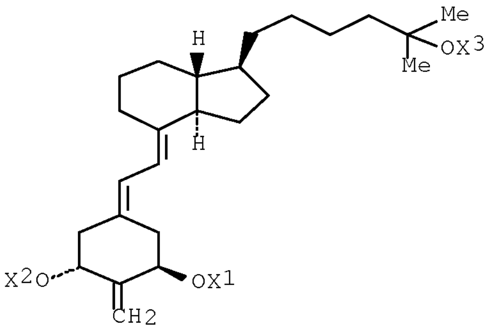


I

AB Vitamin D analogs of formula I [X1-X3 = H, protecting group] are prepared Such compds. are used in preparing pharmaceutical compns. and are useful in treating a variety of biol. conditions. Thus, DJ-55 (I, X1 = X2 = X3 = H) was prepared in several steps, and was more active than 1α,25-dihydroxyvitamin D3 in inducing differentiation of HL-60 cells.

INCL 514063000; 514167000; 552653000

CC 32-7 (Steroids)
Section cross-reference(s): 2, 63

IT Anti-inflammatory agents
Antiasthmatics
Antidiabetic agents
Antiobesity agents
Antiosteoporotic agents
Antirheumatic agents
Antitumor agents
Asthma
  Celiac disease
  Colon neoplasm
  Crohn disease
Diabetes mellitus
Human
Inflammation
  Inflammatory bowel disease
Leukemia
Lung, neoplasm
Lupus erythematosus
Mammary gland, neoplasm
Multiple sclerosis
Nasal drug delivery systems
Obesity
Oral drug delivery systems
Osteoporosis
Parenteral drug delivery systems
Prostate gland, neoplasm
Psoriasis
Rectal drug delivery systems
Rheumatoid arthritis
Skin, neoplasm
Sublingual drug delivery systems
Topical drug delivery systems
Transdermal drug delivery systems
Transplant rejection
  Ulcerative colitis
   (preparation of methylenedihydroxy trinorvitamin D3 as a pharmaceutical)

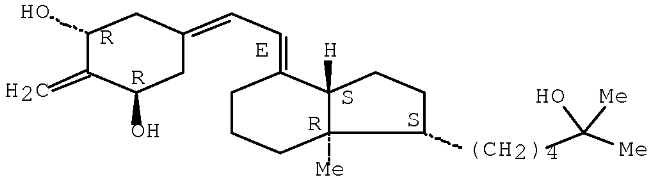
IT 951407-27-5P 951665-41-1P, DJ 55
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of methylenedihydroxy trinorvitamin D3 as a pharmaceutical)

IT 951407-27-5P 951665-41-1P, DJ 55
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of methylenedihydroxy trinorvitamin D3 as a pharmaceutical)

RN 951407-27-5 HCAPLUS

CN 1,3-Cyclohexanediol, 2-methylene-5-[(2E)-2-[(1S,3aS,7aR)-octahydro-1-(5-hydroxy-5-methylhexyl)-7a-methyl-4H-inden-4-ylidene]ethylidene]-, (1R,3R)- (CA INDEX NAME)

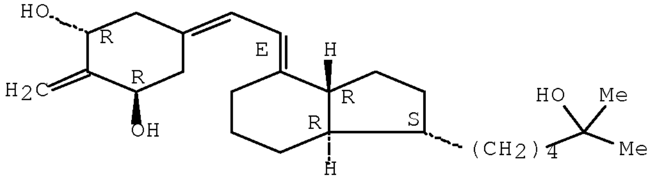
Absolute stereochemistry.
Double bond geometry as shown.



RN 951665-41-1 HCAPLUS

CN 1,3-Cyclohexanediol, 2-methylene-5-[(2E)-2-[(1S,3aR,7aR)-octahydro-1-(5-hydroxy-5-methylhexyl)-4H-inden-4-ylidene]ethylidene]-, (1R,3R)- (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L33 ANSWER 4 OF 24 HCAPLUS COPYRIGHT 2009 ACS on STN DUPLICATE 4

ACCESSION NUMBER:	2007:1151810 HCAPLUS Full-text
DOCUMENT NUMBER:	147:427588
TITLE:	Preparation of 2-substituted-1α,25-dihydroxy-19,26,27-trinorvitamin D analogs as pharmaceuticals
INVENTOR(S):	Deluca, Hector F.; Plum, Lori A.; Clagett-Dame, Margaret; Grzywacz, Pawel
PATENT ASSIGNEE(S):	Wisconsin Alumni Research Foundation, USA
SOURCE:	U.S. Pat. Appl. Publ., 28 pp. CODEN: USXXCO
DOCUMENT TYPE:	Patent
LANGUAGE:	English
FAMILY ACC. NUM. COUNT:	10

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PATENT INFORMATION:

     PATENT NO.          KIND   DATE       APPLICATION NO.        DATE
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     US 20070238704       A1    20071011   US 2007-697434         20070406
     AU 2007298673        A1    20080327   AU 2007-298673         20070406
     CA 2646911           A1    20080327   CA 2007-2646911        20070406
     WO 2008035228        A2    20080327   WO 2007-IB3919         20070406
     WO 2008035228        A3    20080605
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA,
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             GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM,
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             RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR,
             TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
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             BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW,
             GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,
             BY, KG, KZ, MD, RU, TJ, TM, AP, EA, EP, OA
     EP 2021320           A2    20090211   EP 2007-859048          20070406
         R:  AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
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             AL, BA, HR, MK, RS
     JP 2009532460        T     20090910   JP 2009-503692          20070406
     US 20080300223       A1    20081204   US 2008-171085          20080710
     MX 2008012671        A     20081015   MX 2008-12671           20081002
PRIORITY APPLN. INFO.:                     US 2006-744386P     P  20060406
                                           US 2007-697434      A2 20070406
                                           WO 2007-IB3919      W  20070406
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OTHER SOURCE(S):         CASREACT 147:427588; MARPAT 147:427588
GI
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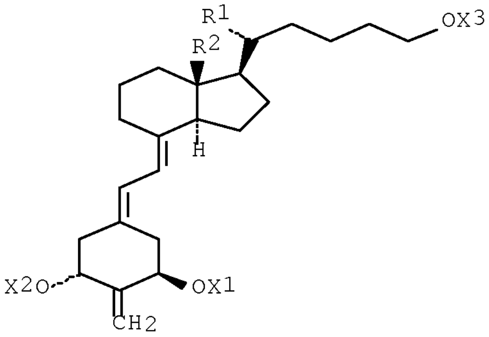

I

```
AB    Vitamin D analogs of formula I [X1-X3 = H, protecting group; R1, R2 = H,
      alkyl] are prepared  Such compds. are used in preparing pharmaceutical compns.
      and are useful in treating a variety of biol. conditions.  Thus, RA-7 (I; X1 =
      X2 = X3 = H, R1 = R2 = Me) was prepared, and was active in inhibiting
      differentiation of HL-60 cells.
INCL 514063000; 514167000; 552653000
CC   32-7 (Steroids)
     Section cross-reference(s): 2, 63
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IT   Anti-inflammatory agents
     Antiasthmatics
     Antidiabetic agents
     Antiobesity agents
     Antiosteoporotic agents
     Antirheumatic agents
     Antitumor agents
     Asthma
       Celiac disease
       Colon neoplasm
       Crohn disease
     Diabetes mellitus
     Human
     Inflammation
       Inflammatory bowel disease
     Leukemia
     Lung, neoplasm
     Lupus erythematosus
     Mammary gland, neoplasm
     Multiple sclerosis
     Nasal drug delivery systems
     Obesity
     Oral drug delivery systems
     Osteoporosis
     Parenteral drug delivery systems
     Prostate gland, neoplasm
     Psoriasis
     Rectal drug delivery systems
     Rheumatoid arthritis
     Skin, neoplasm
     Sublingual drug delivery systems
     Topical drug delivery systems
     Transplant rejection
       Ulcerative colitis
        (preparation of 2-substituted-dihydroxy trinorvitamin D analogs as
        pharmaceuticals)
IT   952061-87-9P, Steroid RA 7
     RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic
     preparation); THU (Therapeutic use); BIOL (Biological study); PREP
     (Preparation); RACT (Reactant or reagent); USES (Uses)
        (preparation of 2-substituted-dihydroxy trinorvitamin D analogs as
        pharmaceuticals)
IT   952061-87-9P, Steroid RA 7
     RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic
     preparation); THU (Therapeutic use); BIOL (Biological study); PREP
     (Preparation); RACT (Reactant or reagent); USES (Uses)
        (preparation of 2-substituted-dihydroxy trinorvitamin D analogs as
        pharmaceuticals)
RN   952061-87-9  HCAPLUS
CN   1,3-Cyclohexanediol, 2-methylene-5-[(2E)-2-[(1R,3aS,7aR)-octahydro-1-[(1R)-
     5-hydroxy-1-methylpentyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-,
     (1R,3R)-  (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.
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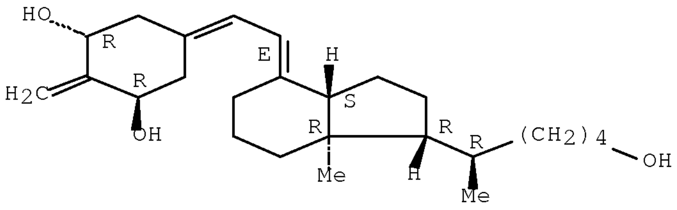

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L33  ANSWER 5 OF 24  HCAPLUS  COPYRIGHT 2009 ACS on STN DUPLICATE 5
ACCESSION NUMBER:         2007:907900  HCAPLUS  Full-text
DOCUMENT NUMBER:          147:277796
TITLE:                    Preparation of vitamin D analog RAK as a
                          pharmaceutical
INVENTOR(S):              Deluca, Hector F.; Chiellini, Grazia;
                          Grzywacz, Pawel; Plum, Lori A.; Clagett-Dame, Margaret
PATENT ASSIGNEE(S):       Wisconsin Alumni Research Foundation, USA
SOURCE:                   U.S. Pat. Appl. Publ., 24 pp.
                          CODEN: USXXCO
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
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     US 20070191317       A1    20070816    US 2007-669053         20070130
     AU 2007212185        A1    20070816    AU 2007-212185         20070131
     CA 2637302           A1    20070816    CA 2007-2637302        20070131
     WO 2007092721        A2    20070816    WO 2007-US61404        20070131
     WO 2007092721        A3    20071018
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
             CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
             GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN,
             KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK,
             MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO,
             RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT,
             TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
         RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
             IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,
             CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
             GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
             KG, KZ, MD, RU, TJ, TM, AP, EA, EP, OA
     EP 1984329           A2    20081029    EP 2007-763622         20070131
     EP 1984329           B1    20091209
         R:  AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
             IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR
     JP 2009525981        T     20090716    JP 2008-553486         20070131
     MX 2008009901        A     20080814    MX 2008-9901           20080801
PRIORITY APPLN. INFO.:                      US 2006-743219P     P  20060202
                                            WO 2007-US61404     W  20070131
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OTHER SOURCE(S):          CASREACT 147:277796; MARPAT 147:277796
GI
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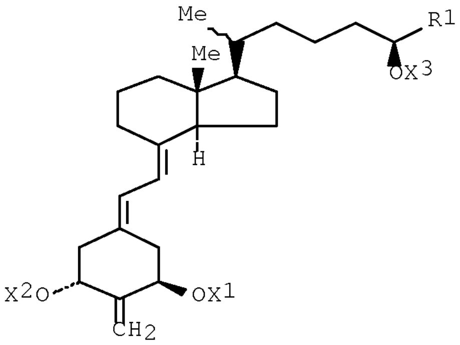

I

AB Compds. of formula IA or IB are provided where X1, X2 and X3 are independently selected from H or hydroxy protecting groups and R1 is selected from straight or branched chain alkyl groups having from 1 to 8 carbon atoms; straight or branched chain alkenyl groups having from 2 to 8 carbon atoms; straight or branched chain hydroxy-substituted alkyl groups having from 1 to 8 carbon atoms; straight and branched chain hydroxy-substituted alkenyl groups having from 2 to 8 carbon atoms. Compds. of formula I [X1-X3 = H, protecting groups; R1 = alkyl, etc.] are prepared Such compds. are used in preparing pharmaceutical compns. and are useful in treating a variety of biol. conditions. Thus, RAK (I; X1 = X2 = X3 = H, R1 = Me, 20R) was prepared in several steps, and has comparable binding activity to the vitamin D receptor to 1α,25-dihydroxyvitamin D3.

INCL 514167000; 556465000; 568819000; 552653000

CC 32-7 (Steroids)
Section cross-reference(s): 2, 63

IT Anti-inflammatory agents
Antiasthmatics
Antidiabetic agents
Antiosteoporotic agents
Antirheumatic agents
Antitumor agents
Asthma
  Celiac disease
  Colon neoplasm
  Crohn disease
Diabetes mellitus
Human
Inflammation
  Inflammatory bowel disease
Leukemia
Lupus erythematosus
Mammary gland, neoplasm
Multiple sclerosis
Oral drug delivery systems
Osteoporosis
Parenteral drug delivery systems
Prostate gland, neoplasm
Psoriasis
Rheumatoid arthritis
Rickets
Skin, disease
Topical drug delivery systems
Transdermal drug delivery systems
Transplant rejection

```
         Ulcerative colitis
           (preparation of vitamin D analog as pharmaceutical)
IT   946163-55-9P
     RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
     (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
     (Uses)
        (preparation of vitamin D analog as pharmaceutical)
IT   946163-55-9P
     RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
     (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
     (Uses)
        (preparation of vitamin D analog as pharmaceutical)
RN   946163-55-9  HCAPLUS
CN   1,3-Cyclohexanediol, 2-methylene-5-[(2E)-2-[(1R,3aS,7aR)-octahydro-1-
     [(1R,5R)-5-hydroxy-1-methylhexyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-
     , (1R,3R)-  (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.
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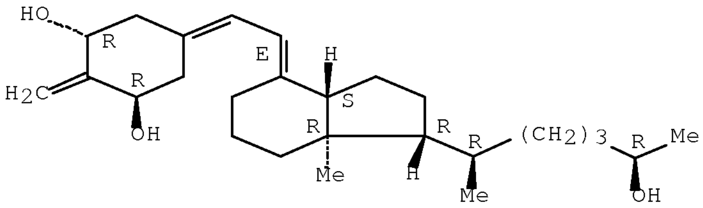

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OS.CITING REF COUNT:     1     THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD
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L33  ANSWER 6 OF 24  HCAPLUS  COPYRIGHT 2009 ACS on STN DUPLICATE 6
ACCESSION NUMBER:         2007:907896  HCAPLUS  Full-text
DOCUMENT NUMBER:          147:277795
TITLE:                    Preparation of vitamin D analog NEL as a
                          pharmaceutical
INVENTOR(S):              Deluca, Hector F.; Chiellini, Grazia;
                          Grzywacz, Pawel; Plum, Lori A.; Clagett-Dame, Margaret
PATENT ASSIGNEE(S):       Wisconsin Alumni Research Foundation, USA
SOURCE:                   U.S. Pat. Appl. Publ., 24 pp.
                          CODEN: USXXCO
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.          KIND   DATE       APPLICATION NO.       DATE
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     US 20070191316       A1    20070816   US 2007-669029        20070130
     US 7528122           B2    20090505
     AU 2007212184        A1    20070816   AU 2007-212184        20070131
     CA 2637817           A1    20070816   CA 2007-2637817       20070131
     WO 2007092720        A2    20070816   WO 2007-US61402       20070131
     WO 2007092720        A3    20071018
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             GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN,
             KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK,
             MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO,
             RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT,
             TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
         RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
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             CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
             GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
             KG, KZ, MD, RU, TJ, TM, AP, EA, EP, OA
     EP 1981843          A2    20081022    EP 2007-763317         20070131
     EP 1981843          B1    20091209
         R:  AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
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     JP 2009525980       T     20090716    JP 2008-553484         20070131
     MX 2008009900       A     20080814    MX 2008-9900           20080801
PRIORITY APPLN. INFO.:                     US 2006-743217P     P  20060202
                                           WO 2007-US61402     W  20070131
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OTHER SOURCE(S):         CASREACT 147:277795; MARPAT 147:277795
GI
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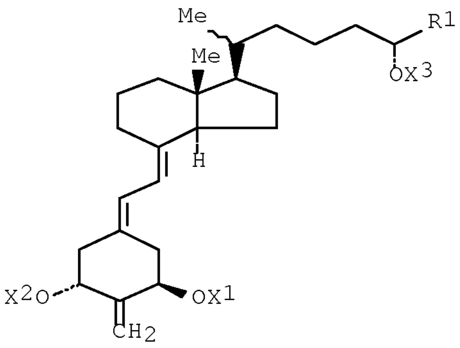

I

AB Compds. of formula I [X1, X2, X3 = H, protecting groups; R1 = alkyl, etc.] are prepared Such compds. are used in preparing pharmaceutical compns. and are useful in treating a variety of biol. conditions. Thus, NEL (I; X1 = X2 = X3 = H, R1 = Me, 20R) was prepared in several steps, and is more active in binding to the vitamin D receptor than 1α,25-dihydroxyvitamin D3.

INCL 514167000; 556465000; 568819000; 552653000

CC 32-7 (Steroids)
Section cross-reference(s): 2, 63

IT Anti-inflammatory agents
Antiasthmatics
Antidiabetic agents
Antiosteoporotic agents
Antirheumatic agents
Antitumor agents
Asthma
  Celiac disease
  Colon neoplasm
  Crohn disease
Diabetes mellitus
Human
Inflammation
  Inflammatory bowel disease

```
     Leukemia
     Lupus erythematosus
     Mammary gland, neoplasm
     Multiple sclerosis
     Oral drug delivery systems
     Osteoporosis
     Parenteral drug delivery systems
     Prostate gland, neoplasm
     Psoriasis
     Rheumatoid arthritis
     Rickets
     Skin, disease
     Topical drug delivery systems
     Transdermal drug delivery systems
     Transplant rejection
       Ulcerative colitis
        (preparation of vitamin D analog as pharmaceutical)
IT   946163-49-1P
     RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
     (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
     (Uses)
        (preparation of vitamin D analog as pharmaceutical)
IT   946163-49-1P
     RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
     (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
     (Uses)
        (preparation of vitamin D analog as pharmaceutical)
RN   946163-49-1  HCAPLUS
CN   1,3-Cyclohexanediol, 2-methylene-5-[(2E)-2-[(1R,3aS,7aR)-octahydro-1-
     [(1R,5S)-5-hydroxy-1-methylhexyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-
     , (1R,3R)-  (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.
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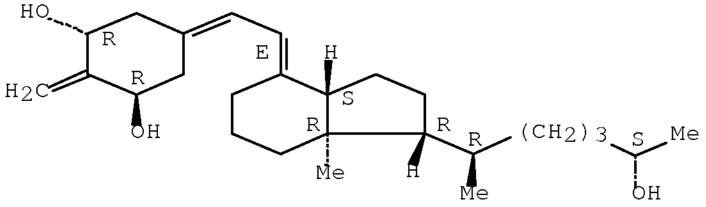

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OS.CITING REF COUNT:     2     THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD
                               (2 CITINGS)
REFERENCE COUNT:         43    THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS
                               RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L33  ANSWER 7 OF 24  HCAPLUS  COPYRIGHT 2009 ACS on STN DUPLICATE 7
ACCESSION NUMBER:        2005:325694  HCAPLUS  Full-text
DOCUMENT NUMBER:         142:349476
TITLE:                   Treatment of inflammatory bowel
                         disease with 2-methylene-19-nor-vitamin D compounds
INVENTOR(S):             Deluca, Hector F.; Cantorna,
                         Margherita
PATENT ASSIGNEE(S):      USA
SOURCE:                  U.S. Pat. Appl. Publ., 9 pp.
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                         CODEN: USXXCO
DOCUMENT TYPE:           Patent
LANGUAGE:                English
FAMILY ACC. NUM. COUNT:  1
PATENT INFORMATION:

     PATENT NO.          KIND   DATE       APPLICATION NO.        DATE
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     US 20050080059       A1    20050414   US 2003-680881         20031008 <--
     AU 2004283073        A1    20050506   AU 2004-283073         20040723 <--
     CA 2541991           A1    20050506   CA 2004-2541991        20040723 <--
     WO 2005039592        A1    20050506   WO 2004-US23586        20040723 <--
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             GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
             LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
             NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
             TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
         RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
             AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
             EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,
             SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
             SN, TD, TG
     EP 1673095           A1    20060628   EP 2004-778892         20040723 <--
     EP 1673095           B1    20091118
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK
     JP 2007508298        T     20070405   JP 2006-533831         20040723 <--
     NZ 546440            A     20090828   NZ 2004-546440         20040723 <--
     MX 2006003974        A     20061120   MX 2006-3974           20060407 <--
PRIORITY APPLN. INFO.:                     US 2003-680881      A  20031008 <--
                                           WO 2004-US23586     W  20040723
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OTHER SOURCE(S):         MARPAT 142:349476
AB    A method of preventing and/or treating inflammatory bowel disease,
      particularly ulcerative colitis and Crohn's disease, is disclosed.  The method
      involves administering a 2-methylene-19-nor-vitamin D compound in an amount
      effective to treat the disease.  The administration of a 2-methylene-19-nor-
      vitamin D compound also prevents the development of or delays the onset of
      inflammatory bowel disease in susceptible individuals. The preferred compds.
      are 1α-hydroxy-2-methylene-19-nor- homopregnacalciferol and 2-methylene-19-
      nor-20(S)-1α,25- dihydroxyvitamin D3.
IC    ICM  A61K031-59
INCL 514167000
CC    2-10 (Mammalian Hormones)
ST    inflammatory bowel disease treatment methylene
      norvitamin D compd
IT    Inflammation
         (Crohn's disease; treatment of inflammatory
         bowel disease with 2-methylene-19-nor-vitamin D compds.)
IT    Intestine, disease
         (Crohn's; treatment of inflammatory bowel
         disease with 2-methylene-19-nor-vitamin D compds.)
IT    Intestine, disease
         (inflammatory; treatment of inflammatory
         bowel disease with 2-methylene-19-nor-vitamin D compds.)
IT    Human
         (treatment of inflammatory bowel disease with
         2-methylene-19-nor-vitamin D compds.)
IT    Inflammation
```

Intestine, disease
(ulcerative colitis; treatment of
inflammatory bowel disease with
2-methylene-19-nor-vitamin D compds.)

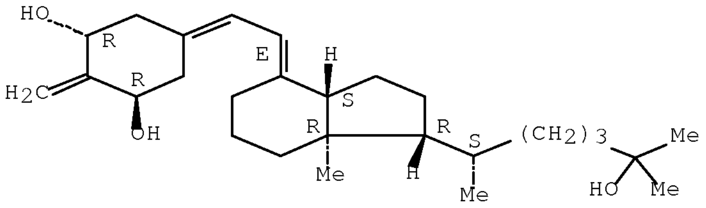
IT 130447-37-9D, 19-Norcalcitrol, derivs. and compds. 213250-70-5
, 2-Methylene-19-nor-20(S)-1α,25-dihydroxyvitamin D3 524067-22-9
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(treatment of inflammatory bowel disease with
2-methylene-19-nor-vitamin D compds.)

IT 213250-70-5, 2-Methylene-19-nor-20(S)-1α,25-
dihydroxyvitamin D3
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(treatment of inflammatory bowel disease with
2-methylene-19-nor-vitamin D compds.)

RN 213250-70-5 HCAPLUS

CN 1,3-Cyclohexanediol, 2-methylene-5-[(2E)-2-[(1R,3aS,7aR)-octahydro-1-[(1S)-5-hydroxy-1,5-dimethylhexyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, (1R,3R)- (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L33 ANSWER 8 OF 24 HCAPLUS COPYRIGHT 2009 ACS on STN DUPLICATE 8

ACCESSION NUMBER: 2002:332679 HCAPLUS Full-text
DOCUMENT NUMBER: 136:335278
TITLE: 1α-Hydroxy-2-methylene-19-nor-homopregnacalciferol and its therapeutic uses
INVENTOR(S): DeLuca, Hector F.; Sicinski, Rafal R.; Gowlugari, Sumithra; Plum, Lori A.; Clagett-Dame, Margaret
PATENT ASSIGNEE(S): Wisconsin Alumni Research Foundation, USA
SOURCE: U.S. Pat. Appl. Publ., 14 pp., Cont.-in-part of U. S. Ser. No. 657,828.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20020052350	A1	20020502	US 2001-878438	20010611
US 6440953	B2	20020827		
ES 2227215	T3	20050401	ES 2001-942154	20010611
US 20020183289	A1	20021205	US 2002-165123	20020607
US 6579861	B2	20030617		

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PRIORITY APPLN. INFO.:                      US 2000-657828      A2 20000908
                                            US 2001-878438      A3 20010611
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
```

AB The invention discloses 1α-hydroxy-2-methylene-19-nor- homopregnacalciferol and its pharmaceutical uses. This compound exhibits pronounced activity in arresting the proliferation of undifferentiated cells and inducing their differentiation to the monocyte thus evidencing use as an anti-cancer agent and for the treatment of skin diseases such as psoriasis as well as skin conditions such as wrinkles, slack skin, dry skin and insufficient sebum secretion. This compound also has little, if any, calcemic activity and therefore may be used to treat immune disorders in humans as well as renal osteodystrophy.

IC ICM A61K031-59

INCL 514167000

CC 1-12 (Pharmacology)

IT Intestine, disease
(inflammatory; hydroxymethylenenorhomopregnacalciferol and therapeutic use)

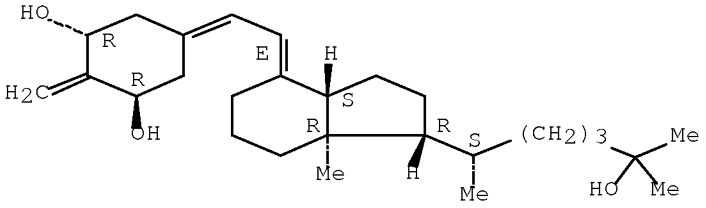
IT 32222-06-3, 1α,25-Dihydroxyvitamin D3 213250-70-5
RL: PAC (Pharmacological activity); BIOL (Biological study)
(hydroxymethylenenorhomopregnacalciferol and therapeutic use)

IT 213250-70-5
RL: PAC (Pharmacological activity); BIOL (Biological study)
(hydroxymethylenenorhomopregnacalciferol and therapeutic use)

RN 213250-70-5 HCAPLUS

CN 1,3-Cyclohexanediol, 2-methylene-5-[(2E)-2-[(1R,3aS,7aR)-octahydro-1-[(1S)-5-hydroxy-1,5-dimethylhexyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, (1R,3R)- (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



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OS.CITING REF COUNT:     11    THERE ARE 11 CAPLUS RECORDS THAT CITE THIS
                               RECORD (11 CITINGS)

L33  ANSWER 9 OF 24  HCAPLUS  COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER:         2007:259536  HCAPLUS  Full-text
DOCUMENT NUMBER:          146:296132
TITLE:                    Preparation of des-C,D analogs of
                          1α,25-dihydroxy-19-norvitamin D3 as
                          pharmaceuticals
INVENTOR(S):              Deluca, Hector F.; Plonska-Ocypa, Katarzyna;
                          Sicinski, Rafal; Grzywacz, Pawel; Plum, Lori A.;
                          Clagett-Dame, Margaret
PATENT ASSIGNEE(S):       Wisconsin Alumni Research Foundation, USA
SOURCE:                   PCT Int. Appl., 51 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
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FAMILY ACC. NUM. COUNT:  1
PATENT INFORMATION:

     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     ---------------     ----   --------    --------------------   --------
     WO 2007028000        A2    20070308    WO 2006-US34196        20060830
     WO 2007028000        A3    20071122
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
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             GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP,
             KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN,
             MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS,
             RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ,
             UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
         RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
             IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,
             CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
             GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
             KG, KZ, MD, RU, TJ, TM, AP, EA, EP, OA
     AU 2006284622        A1    20070308    AU 2006-284622         20060830
     CA 2620354           A1    20070308    CA 2006-2620354        20060830
     US 20070112077       A1    20070517    US 2006-512705         20060830
     US 7534777           B2    20090519
     EP 1931324           A2    20080618    EP 2006-814063         20060830
         R:  AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
             IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL,
             BA, HR, MK, RS
     JP 2009507028        T     20090219    JP 2008-529302         20060830
     MX 2008002831        A     20080402    MX 2008-2831           20080228
PRIORITY APPLN. INFO.:                      US 2005-712365P     P  20050830
                                            WO 2006-US34196     W  20060830
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OTHER SOURCE(S):         CASREACT 146:296132; MARPAT 146:296132
GI
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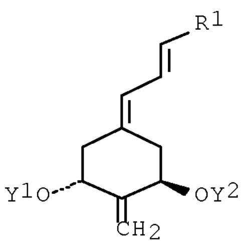

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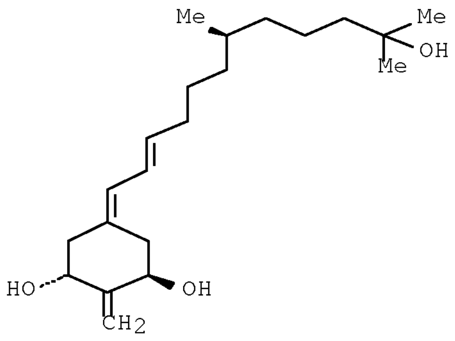

II

```
AB    Des-C,D 2-methylene-19-norvitamin D3 analogs of formula I [R1 = straight or
      branched chain alkyl or alkylene with OY3 group; Y1, Y2, Y3 = H, protecting
      group] are prepared  Such compds. may be used in preparing pharmaceutical
      compns. and are useful in treating a variety of biol. conditions.  Thus, II
      was prepared, and had EC50 value of 3x10-7 M against HL-60 cells.
CC    32-7 (Steroids)
      Section cross-reference(s): 2, 63
IT    Anti-inflammatory agents
```

```
     Antiasthmatics
     Antidiabetic agents
     Antirheumatic agents
     Antitumor agents
     Asthma
       Colon neoplasm
     Diabetes mellitus
     Eczema
     Human
     Inflammation
       Inflammatory bowel disease
     Leukemia
     Lupus erythematosus
     Mammary gland, neoplasm
     Multiple sclerosis
     Oral drug delivery systems
     Parenteral drug delivery systems
     Pharmaceutical aerosols
     Prostate gland, neoplasm
     Psoriasis
     Rectal drug delivery systems
     Rheumatoid arthritis
     Skin, disease
     Topical drug delivery systems
     Transdermal drug delivery systems
     Transplant rejection
        (preparation of des-C,D analogs of dihydroxynorvitamin D3 as
        pharmaceuticals)
IT   213319-29-0DP, 2-Methylene-1α,25-dihydroxy-19-norvitamin
     D3, des-C,D analogs   928257-70-9P
     RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
     (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
     (Uses)
        (preparation of des-C,D analogs of dihydroxynorvitamin D3 as
        pharmaceuticals)
IT   213319-29-0DP, 2-Methylene-1α,25-dihydroxy-19-norvitamin
     D3, des-C,D analogs
     RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
     (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
     (Uses)
        (preparation of des-C,D analogs of dihydroxynorvitamin D3 as
        pharmaceuticals)
RN   213319-29-0  HCAPLUS
CN   1,3-Cyclohexanediol, 2-methylene-5-[(2E)-2-[(1R,3aS,7aR)-octahydro-1-[(1R)-
     5-hydroxy-1,5-dimethylhexyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-,
     (1R,3R)-  (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.
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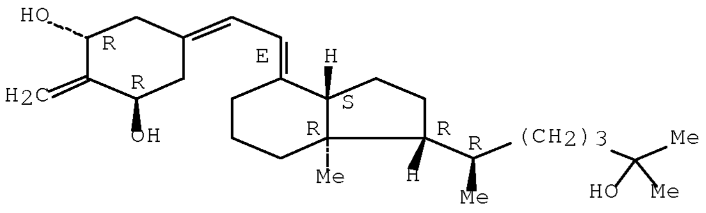

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L33  ANSWER 10 OF 24  HCAPLUS  COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER:         2006:823463  HCAPLUS  Full-text
DOCUMENT NUMBER:          145:249395
TITLE:                    Preparation of
                          2-methylene-19-nor-(20S-24S)-1α,25-
                          dihydroxyvitamin D2 for pharmaceutical use
INVENTOR(S):              Deluca, Hector F.; Plum, Lori A.;
                          Clagett-Dame, Margaret
PATENT ASSIGNEE(S):       Wisconsin Alumni Research Foundation, USA
SOURCE:                   PCT Int. Appl., 33 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.          KIND   DATE        APPLICATION NO.         DATE
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     WO 2006086613        A2    20060817    WO 2006-US4699          20060210
     WO 2006086613        A3    20061109
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
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             GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR,
             KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX,
             MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE,
             SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC,
             VN, YU, ZA, ZM, ZW
         RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
             IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,
             CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
             GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
             KG, KZ, MD, RU, TJ, TM
     AU 2006213727        A1    20060817    AU 2006-213727          20060210
     CA 2597624           A1    20060817    CA 2006-2597624         20060210
     US 20060183716       A1    20060817    US 2006-352454          20060210
     US 7563783           B2    20090721
     EP 1853274           A2    20071114    EP 2006-720601          20060210
         R:  AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
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     JP 2008530110        T     20080807    JP 2007-555236          20060210
     MX 2007009726        A     20070926    MX 2007-9726            20070810
PRIORITY APPLN. INFO.:                      US 2005-652473P     P  20050211
                                            WO 2006-US4699      W  20060210
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OTHER SOURCE(S):          CASREACT 145:249395; MARPAT 145:249395
GI
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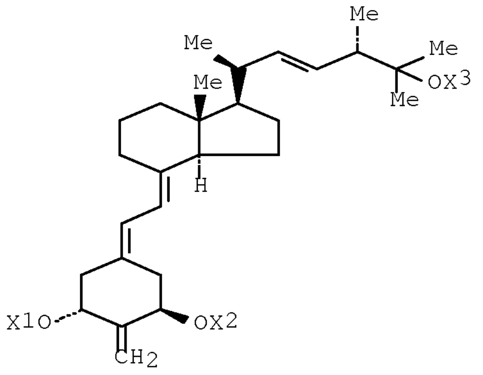


I

AB Compds. of formula I are provided [X1, X2, X3 = H, hydroxy protecting group]. Such compds. may be used in preparing pharmaceutical compns. and are useful in treating a variety of biol. conditions. Thus, I (X1 = X2 = X3 = H) was prepared, and showed HL-60 differentiation activity.

CC 32-7 (Steroids)
Section cross-reference(s): 2, 63

IT Inflammation
(Crohn's disease; preparation of methylene-nordihydroxyvitamin D2 for pharmaceutical use)

IT Intestine, disease
(Crohn's; preparation of methylene-nordihydroxyvitamin D2 for pharmaceutical use)

IT Intestine, disease
(inflammatory; preparation of methylene-nordihydroxyvitamin D2 for pharmaceutical use)

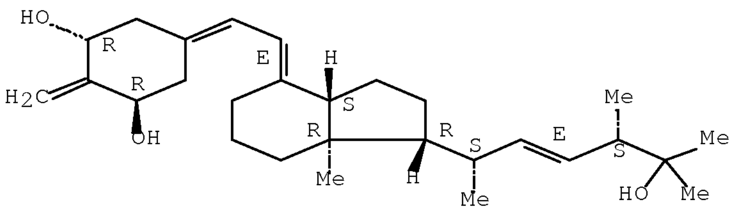
IT Anti-inflammatory agents
Antiasthmatics
Antidiabetic agents
Antiosteoporotic agents
Antirheumatic agents
Antitumor agents
Asthma
Celiac disease
Diabetes mellitus
Human
Leukemia
Lupus erythematosus
Mammary gland, neoplasm
Multiple sclerosis
Osteoporosis
Prostate gland, neoplasm
Psoriasis
Rheumatoid arthritis
Skin, disease
Transplant rejection
(preparation of methylene-nordihydroxyvitamin D2 for pharmaceutical use)

IT Inflammation
Intestine, disease
(ulcerative colitis; preparation of methylene-nordihydroxyvitamin D2 for pharmaceutical use)

IT 905932-27-6P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES

```
     (Uses)
        (preparation of methylene-nordihydroxyvitamin D2 for pharmaceutical use)
IT   905932-27-6P
     RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
     (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
     (Uses)
        (preparation of methylene-nordihydroxyvitamin D2 for pharmaceutical use)
RN   905932-27-6  HCAPLUS
CN   1,3-Cyclohexanediol, 2-methylene-5-[(2E)-2-[(1R,3aS,7aR)-octahydro-1-
     [(1S,2E,4S)-5-hydroxy-1,4,5-trimethyl-2-hexen-1-yl]-7a-methyl-4H-inden-4-
     ylidene]ethylidene]-, (1R,3R)-  (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.
```



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OS.CITING REF COUNT:      1      THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD
                                 (1 CITINGS)
REFERENCE COUNT:          3      THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS
                                 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L33  ANSWER 11 OF 24  HCAPLUS  COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER:         2006:823464  HCAPLUS  Full-text
DOCUMENT NUMBER:          145:249396
TITLE:                    Preparation of
                          2-methylene-19-nor-(20S-24-epi)-1α,25-
                          dihydroxyvitamin-D2 for pharmaceutical use
INVENTOR(S):              Deluca, Hector F.; Plum, Lori A.;
                          Clagett-Dame, Margaret
PATENT ASSIGNEE(S):       Wisconsin Alumni Research Foundation, USA
SOURCE:                   PCT Int. Appl., 33pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
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     WO 2006086608        A1    20060817    WO 2006-US4679         20060210
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
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             GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR,
             KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX,
             MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE,
             SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC,
             VN, YU, ZA, ZM, ZW
        RW:  AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
             IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,
             CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
              GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
              KG, KZ, MD, RU, TJ, TM
     AU 2006213722          A1    20060817    AU 2006-213722          20060210
     CA 2597568             A1    20060817    CA 2006-2597568         20060210
     US 20060183721         A1    20060817    US 2006-351874          20060210
     US 7511030             B2    20090331
     EP 1848442             A1    20071031    EP 2006-734708          20060210
         R:  AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
              IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR
     JP 2008530109          T     20080807    JP 2007-555234          20060210
     MX 2007009725          A     20070926    MX 2007-9725            20070810
PRIORITY APPLN. INFO.:                        US 2005-652044P      P  20050211
                                              WO 2006-US4679       W  20060210
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OTHER SOURCE(S):         CASREACT 145:249396; MARPAT 145:249396
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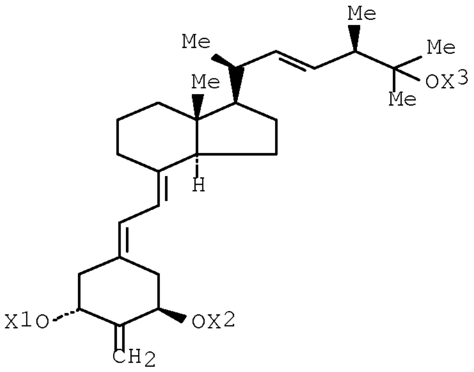

I

AB Compds. of formula I are provided [X1, X2, X3 = H, hydroxy protecting group]. Such compds. may be used in preparing pharmaceutical compns. and are useful in treating a variety of biol. conditions. Thus, I (X1 = X2 = X3 = H) was prepared, and was shown to have HL-60 differentiation activity.

CC 32-7 (Steroids)
Section cross-reference(s): 2, 63

IT Inflammation
(Crohn's disease; preparation of methylene-19-nordihydroxyvitamin D2 for pharmaceutical use)

IT Intestine, disease
(Crohn's; preparation of methylene-19-nordihydroxyvitamin D2 for pharmaceutical use)

IT Intestine, disease
(inflammatory; preparation of methylene-19-nordihydroxyvitamin D2 for pharmaceutical use)

IT Anti-inflammatory agents
Antiasthmatics
Antidiabetic agents
Antiosteoporotic agents
Antirheumatic agents
Antitumor agents
Asthma
Celiac disease
Diabetes mellitus
Human

```
          Leukemia
          Lupus erythematosus
          Mammary gland, neoplasm
          Multiple sclerosis
          Osteoporosis
          Prostate gland, neoplasm
          Psoriasis
          Rheumatoid arthritis
          Skin, disease
          Transplant rejection
             (preparation of methylene-19-nordihydroxyvitamin D2 for pharmaceutical use)
IT   Inflammation
       Intestine, disease
        (ulcerative colitis; preparation of
        methylene-19-nordihydroxyvitamin D2 for pharmaceutical use)
IT   905930-97-4P
     RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
     (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
     (Uses)
        (preparation of methylene-19-nordihydroxyvitamin D2 for pharmaceutical use)
IT   905930-97-4P
     RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
     (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
     (Uses)
        (preparation of methylene-19-nordihydroxyvitamin D2 for pharmaceutical use)
RN   905930-97-4  HCAPLUS
CN   1,3-Cyclohexanediol, 2-methylene-5-[(2E)-2-[(1R,3aS,7aR)-octahydro-1-
     [(1S,2E,4R)-5-hydroxy-1,4,5-trimethyl-2-hexen-1-yl]-7a-methyl-4H-inden-4-
     ylidene]ethylidene]-, (1R,3R)-  (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.
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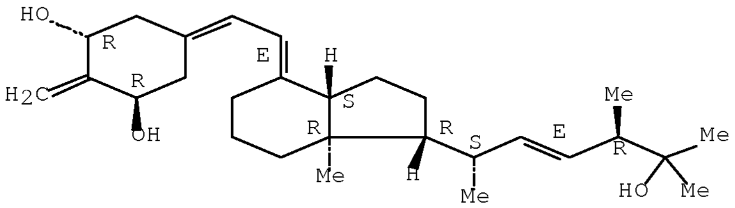

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OS.CITING REF COUNT:     1     THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD
                               (1 CITINGS)
REFERENCE COUNT:         2     THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS
                               RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT



L33  ANSWER 12 OF 24  USPATFULL on STN
ACCESSION NUMBER:       2009:189652  USPATFULL  Full-text
TITLE:                  2-Methylene-(20S,25S)-19,26-Dinor-Vitamin D Analogs
INVENTOR(S):            DeLuca, Hector F., Deerfield, WI, UNITED STATES
                        Clagett-Dame, Margaret, Deerfield, WI, UNITED STATES
                        Plum, Lori A., Arena, WI, UNITED STATES
                        Chiellini, Grazia, Madison, WI, UNITED STATES
                        Grzywacz, Pawel, Madison, WI, UNITED STATES
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	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 20090170821	A1	20090702	
APPLICATION INFO.:	US 2008-343592	A1	20081224	(12)

	NUMBER	DATE	
PRIORITY INFORMATION:	US 2007-17228P	20071228	(61)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: Andrus, Sceales, Starke & Sawall, LLP, 100 East Wisconsin Avenue, Suite 1100, Milwaukee, WI, 53202-4178, US
NUMBER OF CLAIMS: 90
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 5 Drawing Page(s)
LINE COUNT: 1313
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB This invention discloses 2-methylene-(20S,25S)-19,26-dinor-vitamin D analogs, and specifically 2-methylene-(20S,25S)-19,26-dinor-1α,25-dihydroxyvitamin D.sub.3, and pharmaceutical uses therefor. This compound exhibits pronounced activity in arresting the proliferation of undifferentiated cells and inducing their differentiation to the monocyte thus evidencing use as an anti-cancer agent and for the treatment of skin diseases such as psoriasis as well as skin conditions such as wrinkles, slack skin, dry skin and insufficient sebum secretion. This compound also has little, if any, calcemic activity and therefore may be used to treat autoimmune disorders or inflammatory diseases in humans as well as renal osteodystrophy. This compound may also be used for the treatment or prevention of obesity.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM . . . for treatment and prophylaxis of human disorders which are characterized by an imbalance in the immune system, e.g. in autoimmune diseases, including multiple sclerosis, lupus, diabetes mellitus, host versus graft rejection, and rejection of organ transplants; and additionally for the treatment of inflammatory diseases, such as rheumatoid arthritis, asthma, and inflammatory bowel diseases such as celiac disease, ulcerative colitis and Crohn's disease. Acne, alopecia and hypertension are other conditions which may be treated with the compounds of the invention.

DETD . . . for treatment and prophylaxis of human disorders which are characterized by an imbalance in the immune system, e.g. in autoimmune diseases, including multiple sclerosis, lupus, diabetes mellitus, host versus graft rejection, and rejection of organ transplants; and additionally for the treatment of inflammatory diseases, such as rheumatoid arthritis, asthma, and inflammatory bowel diseases such as celiac disease, ulcerative colitis and Crohn's disease. Acne, alopecia and hypertension are other conditions which may be treated with the compound A4 of the invention.

CLM What is claimed is:

40. A method of treating an inflammatory disease selected from the group consisting of rheumatoid arthritis, asthma, and inflammatory bowel diseases, comprising administering to a subject with said disease an effective amount of a compound having the formula: ##STR15## where X.sub.1, X.sub.2 and X.sub.3, which may be the same or different, are each selected from hydrogen or a hydroxy-protecting group.

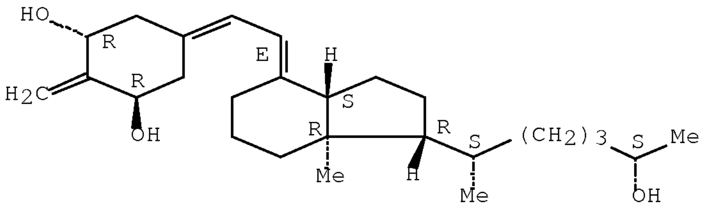
IT 1166870-27-4P
(preparation of 2-methylene-(20S,25S)-19,26-dinor-vitamin D analogs for therapeutic uses)

IT 1166870-27-4P
(preparation of 2-methylene-(20S,25S)-19,26-dinor-vitamin D analogs for therapeutic uses)

RN 1166870-27-4 USPATFULL

CN 1,3-Cyclohexanediol, 2-methylene-5-[(2E)-2-[(1R,3aS,7aR)-octahydro-1-[(1S,5S)-5-hydroxy-1-methylhexyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, (1R,3R)- (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L33 ANSWER 13 OF 24 USPATFULL on STN

ACCESSION NUMBER: 2009:189651 USPATFULL Full-text

TITLE: 2-Methylene-(20S,25R)-19,26-Dinor-Vitamin D Analogs

INVENTOR(S):
DeLuca, Hector F., Deerfield, WI, UNITED STATES
Clagett-Dame, Margaret, Deerfield, WI, UNITED STATES
Plum, Lori A., Arena, WI, UNITED STATES
Chiellini, Grazia, Madison, WI, UNITED STATES
Grzywacz, Pawel, Madison, WI, UNITED STATES

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 20090170820	A1	20090702	
APPLICATION INFO.:	US 2008-343586	A1	20081224	(12)

	NUMBER	DATE	
PRIORITY INFORMATION:	US 2007-17226P	20071228	(61)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: Thomas M. Wozny, ANDRUS, SCEALES, STARKE & SAWALL, LLP, Suite 1100, 100 East Wisconsin Avenue, Milwaukee, WI, 53202, US
NUMBER OF CLAIMS: 90
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 5 Drawing Page(s)
LINE COUNT: 1314
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB This invention discloses 2-methylene-(20S,25R)-19,26-dinor-vitamin D analogs, and specifically 2-methylene-(20S,25R)-19,26-dinor-1α,25-dihydroxyvitamin D.sub.3, and pharmaceutical uses therefor. This compound exhibits pronounced activity in arresting the proliferation of undifferentiated cells and inducing their differentiation to the monocyte thus evidencing use as an anti-cancer agent and for the treatment of skin diseases such as psoriasis as well as skin conditions such as wrinkles,

slack skin, dry skin and insufficient sebum secretion. This compound also has little, if any, calcemic activity and therefore may be used to treat autoimmune disorders or inflammatory diseases in humans as well as renal osteodystrophy. This compound may also be used for the treatment or prevention of obesity.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM . . . for treatment and prophylaxis of human disorders which are characterized by an imbalance in the immune system, e.g. in autoimmune diseases, including multiple sclerosis, lupus, diabetes mellitus, host versus graft rejection, and rejection of organ transplants; and additionally for the treatment of inflammatory diseases, such as rheumatoid arthritis, asthma, and inflammatory bowel diseases such as celiac disease, ulcerative colitis and Crohn's disease. Acne, alopecia and hypertension are other conditions which may be treated with the compounds of the invention.

DETD . . . for treatment and prophylaxis of human disorders which are characterized by an imbalance in the immune system, e.g. in autoimmune diseases, including multiple sclerosis, lupus, diabetes mellitus, host versus graft rejection, and rejection of organ transplants; and additionally for the treatment of inflammatory diseases, such as rheumatoid arthritis, asthma, and inflammatory bowel diseases such as celiac disease, ulcerative colitis and Crohn's disease. Acne, alopecia and hypertension are other conditions which may be treated with the compound SR1 of the invention.

CLM What is claimed is:
40. A method of treating an inflammatory disease selected from the group consisting of rheumatoid arthritis, asthma, and inflammatory bowel diseases, comprising administering to a subject with said disease an effective amount of a compound having the formula: ##STR15## where X.sub.1, X.sub.2 and X.sub.3, which may be the same or different, are each selected from hydrogen or a hydroxy-protecting group.

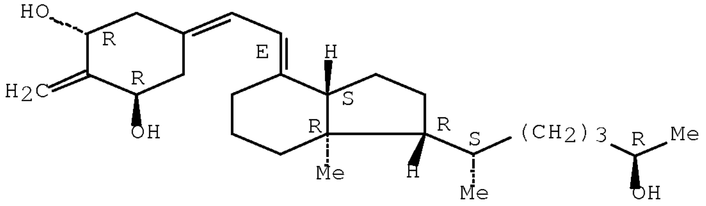
IT 1166898-24-3P
(preparation of 2-methylene-(20S,25R)-19,26-dinor-vitamin D analogs for therapeutic uses)

IT 1166898-24-3P
(preparation of 2-methylene-(20S,25R)-19,26-dinor-vitamin D analogs for therapeutic uses)

RN 1166898-24-3 USPATFULL

CN 1,3-Cyclohexanediol, 2-methylene-5-[(2E)-2-[(1R,3aS,7aR)-octahydro-1-[(1S,5R)-5-hydroxy-1-methylhexyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, (1R,3R)- (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



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L33  ANSWER 14 OF 24  USPATFULL on STN
ACCESSION NUMBER:       2009:189650  USPATFULL  Full-text
TITLE:                  (20R)-23,23-Difluoro-2-Methylene-19-Nor-
                        Bishomopregnacalciferol-Vitamin D Analogs
INVENTOR(S):            DeLuca, Hector F., Deerfield, WI, UNITED STATES
                        Plum, Lori A., Arena, WI, UNITED STATES
                        Barycki, Rafal, Madison, WI, UNITED STATES
                        Clagett-Dame, Margaret, Highway, WI, UNITED STATES

                             NUMBER       KIND    DATE
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PATENT INFORMATION:     US 20090170819     A1   20090702
APPLICATION INFO.:      US 2008-343580     A1   20081224  (12)

                               NUMBER           DATE
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PRIORITY INFORMATION:   US 2007-17219P          20071228 (61)
DOCUMENT TYPE:          Utility
FILE SEGMENT:           APPLICATION
LEGAL REPRESENTATIVE:   Andrus, Sceales, Starke & Sawall, LLP, 100 East
                        Wisconsin Avenue, Suite 1100, Milwaukee, WI,
                        53202-4178, US
NUMBER OF CLAIMS:       92
EXEMPLARY CLAIM:        1
NUMBER OF DRAWINGS:     5 Drawing Page(s)
LINE COUNT:             1082
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB      This invention discloses (20R)-23,23-difluoro-2-methylene-19-nor-
        bishomopregnacalciferol-vitamin D analogs, and specifically (20R)-23,23-
        difluoro-1 α-hydroxy-2-methylene-19-nor- bishomopregnacalciferol, and
        pharmaceutical uses therefor. This compound exhibits pronounced activity in
        arresting the proliferation of undifferentiated cells and inducing their
        differentiation to the monocyte thus evidencing use as an anti-cancer agent
        and for the treatment of skin diseases such as psoriasis as well as skin
        conditions such as wrinkles, slack skin, dry skin and insufficient sebum
        secretion. This compound also has little, if any, calcemic activity and
        therefore may be used to treat autoimmune disorders or inflammatory diseases
        in humans as well as renal osteodystrophy. This compound may also be used
        for the treatment or prevention of obesity.


CAS INDEXING IS AVAILABLE FOR THIS PATENT.
SUMM    .   .   .  for treatment and prophylaxis of human disorders which are
       characterized by an imbalance in the immune system, e.g. in autoimmune
       diseases, including multiple sclerosis, lupus, diabetes mellitus, host
       versus graft rejection, and rejection of organ transplants; and
       additionally for the treatment of inflammatory diseases, such as
       rheumatoid arthritis, asthma, and inflammatory bowel
       diseases such as celiac disease, ulcerative colitis and
       Crohn's disease. Acne, alopecia and hypertension are other
       conditions which may be treated with the compounds of the invention.
DETD    .   .   .  for treatment and prophylaxis of human disorders which are
       characterized by an imbalance in the immune system, e.g. in autoimmune
       diseases, including multiple sclerosis, lupus, diabetes mellitus, host
       versus graft rejection, and rejection of organ transplants; and
       additionally for the treatment of inflammatory diseases, such as
       rheumatoid arthritis, asthma, and inflammatory bowel
       diseases such as celiac disease, ulcerative colitis and
       Crohn's disease. Acne, alopecia and hypertension are other
       conditions which may be treated with the compound FF-44 of the
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invention.

CLM What is claimed is:
40. A method of treating an inflammatory disease selected from the group consisting of rheumatoid arthritis, asthma, and inflammatory bowel diseases, comprising administering to a subject with said disease an effective amount of a compound having the formula: ##STR16## where X.sub.1 and X.sub.2, which may be the same or different, are each selected from hydrogen or a hydroxy-protecting group.

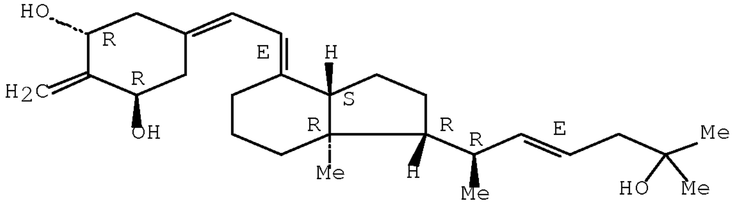
IT 57-55-6, Propylene glycol, biological studies 64-17-5, Ethanol, biological studies 302-79-4, Retinoic acid 4759-48-2 5300-03-8 55079-83-9 94497-51-5 106685-40-9 118292-40-3 153559-49-0 213250-66-9 213250-70-5 364059-51-8 524067-20-7 524067-21-8 524067-22-9 852658-44-7 852658-46-9 938193-64-7 946163-49-1 952427-97-3 1026714-39-5 1027580-46-6 1037033-08-1 1037033-11-6 1037033-42-3
(oral or topical compns. comprising 19-norvitamin D with or without retinoid)

IT 213250-66-9 213250-70-5 946163-49-1
(oral or topical compns. comprising 19-norvitamin D with or without retinoid)

RN 213250-66-9 USPATFULL

CN 1,3-Cyclohexanediol, 2-methylene-5-[(2E)-2-[(1R,3aS,7aR)-octahydro-1-[(1R,2E)-5-hydroxy-1,5-dimethyl-2-hexen-1-yl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, (1R,3R)- (CA INDEX NAME)

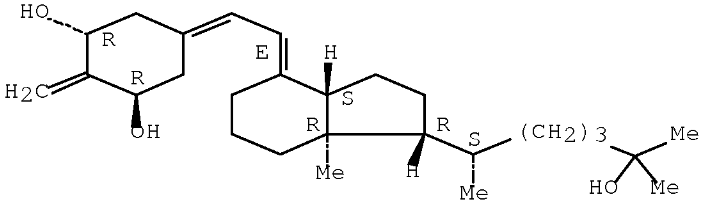
Absolute stereochemistry.
Double bond geometry as shown.



RN 213250-70-5 USPATFULL

CN 1,3-Cyclohexanediol, 2-methylene-5-[(2E)-2-[(1R,3aS,7aR)-octahydro-1-[(1S)-5-hydroxy-1,5-dimethylhexyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, (1R,3R)- (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 946163-49-1 USPATFULL

CN 1,3-Cyclohexanediol, 2-methylene-5-[(2E)-2-[(1R,3aS,7aR)-octahydro-1-

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[(1R,5S)-5-hydroxy-1-methylhexyl]-7a-methyl-4H-inden-4-
ylidene]ethylidene]-, (1R,3R)-  (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.
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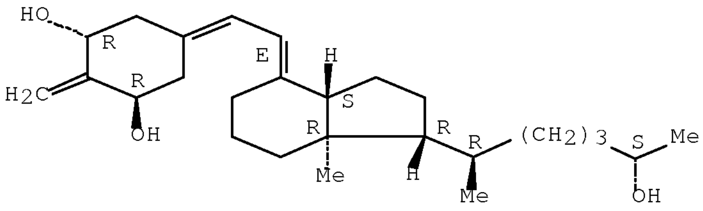

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L33  ANSWER 15 OF 24  USPATFULL on STN
ACCESSION NUMBER:       2009:189649  USPATFULL  Full-text
TITLE:                  (20S)-23,23-Difluoro-Methylene-19-Nor-
                        Bishomopregnacalciferol-Vitamin D Analogs
INVENTOR(S):            DeLuca, Hector F., Deerfield, WI, UNITED STATES
                        Plum, Lori A., Arena, WI, UNITED STATES
                        Barycki, Rafal, Madison, WI, UNITED STATES
                        Clagett-Dame, Margaret, Highway, WI, UNITED STATES

                             NUMBER       KIND    DATE
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PATENT INFORMATION:     US 20090170818     A1   20090702
APPLICATION INFO.:      US 2008-343576     A1   20081224  (12)

                               NUMBER            DATE
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PRIORITY INFORMATION:   US 2007-17217P         20071228 (61)
DOCUMENT TYPE:          Utility
FILE SEGMENT:           APPLICATION
LEGAL REPRESENTATIVE:   Andrus, Sceales, Starke & Sawall, LLP, 100 East
                        Wisconsin Avenue, Suite 1100, Milwaukee, WI,
                        53202-4178, US
NUMBER OF CLAIMS:       92
EXEMPLARY CLAIM:        1
NUMBER OF DRAWINGS:     5 Drawing Page(s)
LINE COUNT:             1138
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB       This invention discloses (20S)-23,23-difluoro-2-methylene-19-nor-
         bishomopregnacalciferol-vitamin D analogs, and specifically (20S)-23,23-
         difluoro-1α-hydroxy-2-methylene-19-nor- bishomopregnacalciferol, and
         pharmaceutical uses therefor. This compound exhibits pronounced activity in
         arresting the proliferation of undifferentiated cells and inducing their
         differentiation to the monocyte thus evidencing use as an anti-cancer agent
         and for the treatment of skin diseases such as psoriasis as well as skin
         conditions such as wrinkles, slack skin, dry skin and insufficient sebum
         secretion. This compound also has little, if any, calcemic activity and
         therefore may be used to treat autoimmune disorders or inflammatory diseases
         in humans as well as renal osteodystrophy. This compound may also be used
         for the treatment or prevention of obesity.


CAS INDEXING IS AVAILABLE FOR THIS PATENT.
```

SUMM . . . for treatment and prophylaxis of human disorders which are characterized by an imbalance in the immune system, e.g. in autoimmune diseases, including multiple sclerosis, lupus, diabetes mellitus, host versus graft rejection, and rejection of organ transplants; and additionally for the treatment of inflammatory diseases, such as rheumatoid arthritis, asthma, and inflammatory bowel diseases such as celiac disease, ulcerative colitis and Crohn's disease. Acne, alopecia and hypertension are other conditions which may be treated with the compounds of the invention.

DETD . . . for treatment and prophylaxis of human disorders which are characterized by an imbalance in the immune system, e.g. in autoimmune diseases, including multiple sclerosis, lupus, diabetes mellitus, host versus graft rejection, and rejection of organ transplants; and additionally for the treatment of inflammatory diseases, such as rheumatoid arthritis, asthma, and inflammatory bowel diseases such as celiac disease, ulcerative colitis and Crohn's disease. Acne, alopecia and hypertension are other conditions which may be treated with the compound FF-55 of the invention.

CLM What is claimed is:
40. A method of treating an inflammatory disease selected from the group consisting of rheumatoid arthritis, asthma, and inflammatory bowel diseases, comprising administering to a subject with said disease an effective amount of a compound having the formula: ##STR17## where X.sub.1 and X.sub.2, which may be the same or different, are each selected from hydrogen or a hydroxy-protecting group.

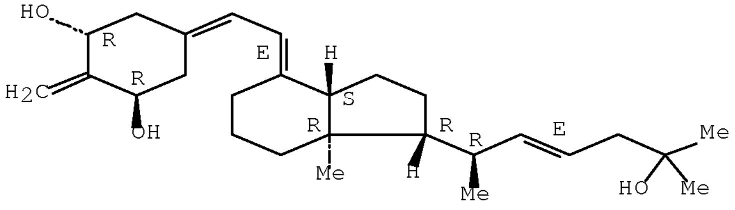
IT 57-55-6, Propylene glycol, biological studies 64-17-5, Ethanol, biological studies 302-79-4, Retinoic acid 4759-48-2 5300-03-8 55079-83-9 94497-51-5 106685-40-9 118292-40-3 153559-49-0 213250-66-9 213250-70-5 364059-51-8 524067-20-7 524067-21-8 524067-22-9 852658-44-7 852658-46-9 938193-64-7 946163-49-1 952427-97-3 1026714-39-5 1027580-46-6 1037033-08-1 1037033-11-6 1037033-42-3
(oral or topical compns. comprising 19-norvitamin D with or without retinoid)

IT 213250-66-9 213250-70-5 946163-49-1
(oral or topical compns. comprising 19-norvitamin D with or without retinoid)

RN 213250-66-9 USPATFULL

CN 1,3-Cyclohexanediol, 2-methylene-5-[(2E)-2-[(1R,3aS,7aR)-octahydro-1-[(1R,2E)-5-hydroxy-1,5-dimethyl-2-hexen-1-yl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, (1R,3R)- (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 213250-70-5 USPATFULL

CN 1,3-Cyclohexanediol, 2-methylene-5-[(2E)-2-[(1R,3aS,7aR)-octahydro-1-[(1S)-

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      5-hydroxy-1,5-dimethylhexyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-,
      (1R,3R)-  (CA INDEX NAME)

      Absolute stereochemistry.
      Double bond geometry as shown.
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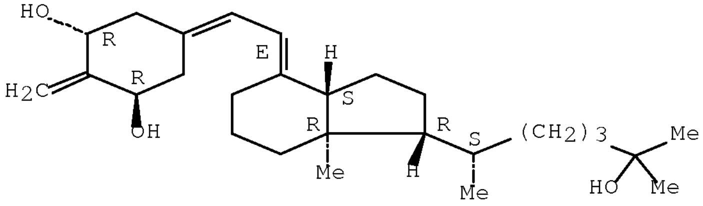

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RN   946163-49-1  USPATFULL
CN   1,3-Cyclohexanediol, 2-methylene-5-[(2E)-2-[(1R,3aS,7aR)-octahydro-1-
       [(1R,5S)-5-hydroxy-1-methylhexyl]-7a-methyl-4H-inden-4-
       ylidene]ethylidene]-, (1R,3R)-  (CA INDEX NAME)

      Absolute stereochemistry.
      Double bond geometry as shown.
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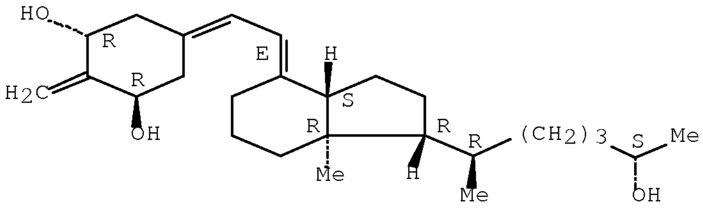

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L33  ANSWER 16 OF 24  USPATFULL on STN
ACCESSION NUMBER:       2009:145784  USPATFULL  Full-text
TITLE:                  VITAMIN D RECEPTOR ACTIVATORS AND METHODS OF MAKING
INVENTOR(S):            Von Geldern, Thomas W., Richmond, IL, UNITED STATES
                        Barkalow, Jufang H., Deerfield, IL, UNITED STATES
                        Barnes, David M., Bristol, WI, UNITED STATES
                        Haight, Anthony R., Wadsworth, IL, UNITED STATES
                        Hengeveld, John E., Kenosha, WI, UNITED STATES
                        Li, Xiaofeng, Gurnee, IL, UNITED STATES
                        McLaughlin, Maureen A., Kenosha, WI, UNITED STATES
                        Noonan, William T., Mason, OH, UNITED STATES
                        Pei, Zhonghua, Burlingame, CA, UNITED STATES
                        Wu-Wong, Jinshyun Ruth, Libertyville, IL, UNITED STATES
PATENT ASSIGNEE(S):     ABBOTT LABORATORIES, Abbott Park, IL, UNITED STATES
                        (U.S. corporation)

                             NUMBER       KIND    DATE
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PATENT INFORMATION:     US 20090131379     A1   20090521
APPLICATION INFO.:      US 2008-205998     A1   20080908  (12)

                               NUMBER           DATE
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PRIORITY INFORMATION:   US 2007-989167P         20071120 (60)
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DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: PAUL D. YASGER, ABBOTT LABORATORIES, 100 ABBOTT PARK ROAD, DEPT. 377/AP6A, ABBOTT PARK, IL, 60064-6008, US
NUMBER OF CLAIMS: 32
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 4 Drawing Page(s)
LINE COUNT: 4644
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to compounds that are vitamin D receptor activators, compositions comprising such compounds, methods of using such compounds and compositions, processes for preparing such compounds, and intermediates obtained during such processes.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM . . . disorders related to vitamin D receptor activity in mammals. More particularly, the method is useful for conditions and disorders related to renal disease, secondary hyperparathyroidism associated with chronic kidney disease, osteoporosis, osteomalacia, osteodystrophy, thrombus formation, the renin-angiotensin system, myocardial hypertrophy, hypertension, autoimmune disorders, immunosuppression, transplant rejection, arthritis, multiple sclerosis, psoriasis, inflammatory bowel disease, type 1 diabetes, or systemic lupus erythematosus, cancers of the colon, prostate, breast, leukemia or Kaposi sarcoma.

DETD . . . invention also contemplates the method for treating or preventing a condition or disorder modulated by a vitamin D receptor comprising the step of administering a compound of formula (I), wherein the condition or disorder is selected from immune disorders associated with autoimmune disorders, immunosuppression, transplant rejection, arthritis, multiple sclerosis, psoriasis, inflammatory bowel disease, type 1 diabetes, and systemic lupus erythematosus.

DETD . . . expressed on most cell types of the immune system and in particular in modulating T cell responses. Currently vitamin D receptor activators are used topically to treat psoriasis. Animal models are suggestive that vitamin D receptor activators can be beneficial in the treatment of arthritis, autoimmune diabetes, experimental allergic encephalomyelitis, inflammatory bowel disease, or systemic lupus erythematosus suggesting the expansion of therapeutic utility in humans (Adorini, L. Cellular Immunology, 2005, 233, 115-124).

DETD . . . expressed on most cell types of the immune system and in particular in modulating T cell responses. Currently vitamin D receptor activators are used topically to treat psoriasis. Animal models are suggestive that vitamin D receptor activators can be beneficial in the treatment of arthritis, autoimmune diabetes, experimental allergic encephalomyelitis, inflammatory bowel disease, and systemic lupus erythematosus suggesting the expansion of therapeutic utility in humans (Adorini, L. Cellular Immunology, 2005, 233, 115-124).

DETD . . . (I) to a mammal provides a method of treating or preventing a condition or disorder selected from the group consisting of renal disease, secondary hyperparathyroidism associated with chronic kidney disease, osteoporosis, osteomalacia, osteodystrophy, thrombus formation, the renin-angiotensin system, myocardial hypertrophy, hypertension, autoimmune disorders, immunosuppression, transplant rejection, arthritis, multiple sclerosis, psoriasis, inflammatory bowel disease, type 1 diabetes, and systemic lupus erythematosus, cancers of the colon, prostate, breast, leukemia and Kaposi sarcoma. More preferred, the administration of a therapeutically

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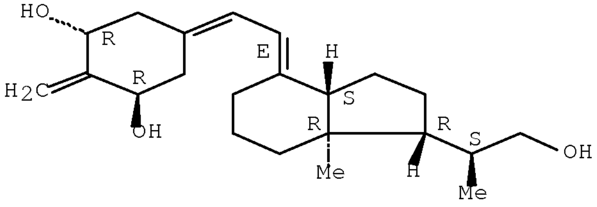
       effective amount of a compound of formula (I) to a mammal provides a
       method of treating secondary hyperparathyoidism, hypertension, and
       myocardial hypertrophy.
CLM    What is claimed is:
       31. The method according to claim 27, wherein the condition or disorder
       is immune disorders associated with autoimmune disorders,
       immunosuppression, transplant rejection, arthritis, multiple sclerosis,
       psoriasis, inflammatory bowel disease, type 1
       diabetes, and systemic lupus erythematosus.

IT    Antiarthritics
IT    Anticoagulants
IT    Antidiabetic agents
IT    Antihypertensives
IT    Antiosteoporotic agents
IT    Antitumor agents
IT    Arthritis
IT    Autoimmune disease
IT    Bone, disease
IT    Cardiac hypertrophy
IT    Cardiovascular agents
IT    Cardiovascular disease
IT    Drug delivery systems
IT    Human
IT    Hyperparathyroidism
IT    Hypertension
IT    Immune disease
IT    Immunomodulators
IT    Immunosuppressants
IT    Immunosuppression
IT    Inflammatory bowel disease
IT    Kidney disease
IT    Leukemia
IT    Mammary gland, neoplasm
IT    Multiple sclerosis
IT    Osteomalacia
IT    Osteoporosis
IT    Prostate gland, neoplasm
IT    Psoriasis
IT    Systemic lupus erythematosis
IT    Thrombosis
IT    Transplant rejection
        (preparation of vitamin D derivs. as vitamin D receptor activators)
IT    1154605-91-0P 1154605-93-2P   1154605-95-4P   1154605-98-7P
      1154606-00-4P   1154606-01-5P   1154606-04-8P   1154606-06-0P
      1154606-08-2P   1154606-09-3P   1154606-12-8P   1154606-14-0P
      1154606-16-2P   1154606-17-3P   1154606-20-8P   1154606-22-0P
      1154606-24-2P   1154606-26-4P
        (preparation of vitamin D derivs. as vitamin D receptor activators)
IT  1154605-93-2P
        (preparation of vitamin D derivs. as vitamin D receptor activators)
RN   1154605-93-2  USPATFULL
CN   1,3-Cyclohexanediol, 2-methylene-5-[(2E)-2-[(1R,3aS,7aR)-octahydro-1-[(1S)-
     2-hydroxy-1-methylethyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-,
     (1R,3R)-  (CA INDEX NAME)

       Absolute stereochemistry.
       Double bond geometry as shown.
```



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L33  ANSWER 17 OF 24  USPATFULL on STN
ACCESSION NUMBER:       2008:93539  USPATFULL  Full-text
TITLE:                  2-Methylene-(20R,25S)-19,27-Dinor-(22E)-Vitamin D
                        Analogs
INVENTOR(S):            DeLuca, Hector F., Deerfield, WI, UNITED STATES
                        Clagett-Dame, Margaret, Deerfield, WI, UNITED STATES
                        Plum, Lori A., Arena, WI, UNITED STATES
                        Chiellini, Grazia, Madison, WI, UNITED STATES
                        Grzywacz, Pawel, Madison, WI, UNITED STATES

                             NUMBER       KIND    DATE
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PATENT INFORMATION:     US 20080081800     A1   20080403
APPLICATION INFO.:      US 2007-860870     A1   20070925  (11)

                               NUMBER           DATE
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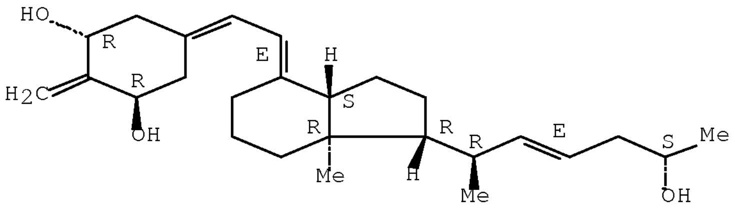
PRIORITY INFORMATION:   US 2006-848803P         20060928 (60)
DOCUMENT TYPE:          Utility
FILE SEGMENT:           APPLICATION
LEGAL REPRESENTATIVE:   ANDRUS, SCEALES, STARKE & SAWALL, LLP, 100 EAST
                        WISCONSIN AVENUE, SUITE 1100, MILWAUKEE, WI, 53202, US
NUMBER OF CLAIMS:       79
EXEMPLARY CLAIM:        1
NUMBER OF DRAWINGS:     5 Drawing Page(s)
LINE COUNT:             1123
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB       This invention discloses 2-methylene-(20R,25S)-19,27-dinor-(22E)-vitamin D
         analogs, and specifically 2-methylene-(20R,25S)-19,27-dinor-(22E)- 1α,25-
         dihydroxyvitamin D.sub.3, and pharmaceutical uses therefor. This compound
         exhibits pronounced activity in arresting the proliferation of
         undifferentiated cells and inducing their differentiation to the monocyte
         thus evidencing use as an anti-cancer agent and for the treatment of skin
         diseases such as psoriasis as well as skin conditions such as wrinkles,
         slack skin, dry skin and insufficient sebum secretion. This compound also
         has little, if any, calcemic activity and therefore may be used to treat
         autoimmune disorders or inflammatory diseases in humans as well as renal
         osteodystrophy. This compound may also be used for the treatment or
         prevention of obesity.


CAS INDEXING IS AVAILABLE FOR THIS PATENT.
SUMM     . . .  for treatment and prophylaxis of human disorders which are
        characterized by an imbalance in the immune system, e.g. in autoimmune
        diseases, including multiple sclerosis, lupus, diabetes mellitus, host
        versus graft rejection, and rejection of organ transplants; and
        additionally for the treatment of inflammatory diseases, such as
        rheumatoid arthritis, asthma, and inflammatory bowel
        diseases such as celiac disease, ulcerative colitis and
        Crohn's disease. Acne, alopecia and hypertension are other
        conditions which may be treated with the compounds of the invention.
DETD     .  .  .  for treatment and prophylaxis of human disorders which are
        characterized by an imbalance in the immune system, e.g. in autoimmune
        diseases, including multiple sclerosis, lupus, diabetes mellitus, host
        versus graft rejection, and rejection of organ transplants; and
        additionally for the treatment of inflammatory diseases, such as
        rheumatoid arthritis, asthma, and inflammatory bowel
        diseases such as celiac disease, ulcerative colitis and
        Crohn's disease. Acne, alopecia and hypertension are other
        conditions which may be treated with the compound REN of the invention.
CLM     What is claimed is:
        40. A method of treating an inflammatory disease selected from the group
        consisting of rheumatoid arthritis, asthma, and inflammatory
        bowel diseases, comprising administering to a subject with said
        disease an effective amount of a compound having the formula:
        ##STR15##  where X.sub.1, X.sub.2 and X.sub.3, which may be the same or
        different, are each selected from hydrogen or a hydroxy-protecting
        group.

IT   1016257-06-9P
        (asym. synthesis of 2-methylene-(20R,25S)-19,27-dinor-(22E)-1α,25-
        dihydroxyvitamin D3 with high vitamin D receptor binding activity and
        low intestinal calcium transport activity)
IT   1016257-06-9P
        (asym. synthesis of 2-methylene-(20R,25S)-19,27-dinor-(22E)-1α,25-
        dihydroxyvitamin D3 with high vitamin D receptor binding activity and
        low intestinal calcium transport activity)
RN   1016257-06-9  USPATFULL
CN   1,3-Cyclohexanediol, 2-methylene-5-[(2E)-2-[(1R,3aS,7aR)-octahydro-1-
       [(1R,2E,5S)-5-hydroxy-1-methyl-2-hexen-1-yl]-7a-methyl-4H-inden-4-
       ylidene]ethylidene]-, (1R,3R)-  (CA INDEX NAME)

       Absolute stereochemistry.
       Double bond geometry as shown.
```



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L33  ANSWER 18 OF 24  USPATFULL on STN
ACCESSION NUMBER:      2008:93538  USPATFULL  Full-text
TITLE:                 2-Methylene-(20S,25S)-19,27-Dinor-(22E)-Vitamin D
                       Analogs
INVENTOR(S):           DeLuca, Hector F., Deerfield, WI, UNITED STATES
                       Clagett-Dame, Margaret, Deerfield, WI, UNITED STATES
                       Plum, Lori A., Arena, WI, UNITED STATES
                       Chiellini, Grazia, Madison, WI, UNITED STATES
                       Grzywacz, Pawel, Madison, WI, UNITED STATES

                            NUMBER        KIND    DATE
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PATENT INFORMATION:      US 20080081799     A1   20080403
APPLICATION INFO.:       US 2007-860863     A1   20070925  (11)

                                NUMBER            DATE
                         -------------------     --------
PRIORITY INFORMATION:    US 2006-848805P         20060928 (60)
DOCUMENT TYPE:           Utility
FILE SEGMENT:            APPLICATION
LEGAL REPRESENTATIVE:    ANDRUS, SCEALES, STARKE & SAWALL, LLP, 100 EAST
                         WISCONSIN AVENUE, SUITE 1100, MILWAUKEE, WI, 53202, US
NUMBER OF CLAIMS:        79
EXEMPLARY CLAIM:         1
NUMBER OF DRAWINGS:      5 Drawing Page(s)
LINE COUNT:              1169
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB      This invention discloses 2-methylene-(20S,25S)-19,27-dinor-(22E)-vitamin D
        analogs, and specifically 2-methylene-(20S,25S)-19,27-dinor-(22E)- 1α,25-
        dihydroxyvitamin D.sub.3, and pharmaceutical uses therefor. This compound
        exhibits pronounced activity in arresting the proliferation of
        undifferentiated cells and inducing their differentiation to the monocyte
        thus evidencing use as an anti-cancer agent and for the treatment of skin
        diseases such as psoriasis as well as skin conditions such as wrinkles,
        slack skin, dry skin and insufficient sebum secretion. This compound also
        has little, if any, calcemic activity and therefore may be used to treat
        autoimmune disorders or inflammatory diseases in humans as well as renal
        osteodystrophy. This compound may also be used for the treatment or
        prevention of obesity.


CAS INDEXING IS AVAILABLE FOR THIS PATENT.
SUMM      .  .  .  for treatment and prophylaxis of human disorders which are
       characterized by an imbalance in the immune system, e.g. in autoimmune
       diseases, including multiple sclerosis, lupus, diabetes mellitus, host
       versus graft rejection, and rejection of organ transplants; and
       additionally for the treatment of inflammatory diseases, such as
       rheumatoid arthritis, asthma, and inflammatory bowel
       diseases such as celiac disease, ulcerative colitis and
       Crohn's disease. Acne, alopecia and hypertension are other
       conditions which may be treated with the compounds of the invention.
DETD      .  .  .  for treatment and prophylaxis of human disorders which are
       characterized by an imbalance in the immune system, e.g. in autoimmune
       diseases, including multiple sclerosis, lupus, diabetes mellitus, host
       versus graft rejection, and rejection of organ transplants; and
       additionally for the treatment of inflammatory diseases, such as
       rheumatoid arthritis, asthma, and inflammatory bowel
       diseases such as celiac disease, ulcerative colitis and
       Crohn's disease. Acne, alopecia and hypertension are other
       conditions which may be treated with the compound SS-22 of the
       invention.
CLM    What is claimed is:
       40. A method of treating an inflammatory disease selected from the group
       consisting of rheumatoid arthritis, asthma, and inflammatory
       bowel diseases, comprising administering to a subject with said
       disease an effective amount of a compound having the formula:
       ##STR16## where X.sub.1, X.sub.2 and X.sub.3, which may be the same or
       different, are each selected from hydrogen or a hydroxy-protecting
       group.

IT   1016232-62-4P, 2-Methylene-(20S,25S)-19,27-dinor-(22E)-
```

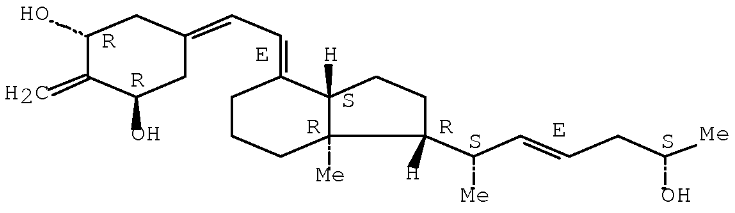
1α,25-dihydroxyvitamin D3
(preparation of 2-methylene-(20S,25S)-19,27-dinor-(22E)-1α,25-dihydroxyvitamin D3 with high vitamin D receptor binding activity and low intestinal calcium transport activity)

IT 1016232-62-4P, 2-Methylene-(20S,25S)-19,27-dinor-(22E)-1α,25-dihydroxyvitamin D3
(preparation of 2-methylene-(20S,25S)-19,27-dinor-(22E)-1α,25-dihydroxyvitamin D3 with high vitamin D receptor binding activity and low intestinal calcium transport activity)

RN 1016232-62-4 USPATFULL

CN 1,3-Cyclohexanediol, 2-methylene-5-[(2E)-2-[(1R,3aS,7aR)-octahydro-1-[(1S,2E,5S)-5-hydroxy-1-methyl-2-hexen-1-yl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, (1R,3R)- (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L33 ANSWER 19 OF 24 USPATFULL on STN
ACCESSION NUMBER: 2007:128720 USPATFULL Full-text
TITLE: Des-C,D analogs of 1alpha,25-dihydroxy-19-norvitamin D3
INVENTOR(S): DeLuca, Hector F., Deerfield, WI, UNITED STATES
Plonska-Ocypa, Katarzyna, Warsaw, POLAND
Sicinski, Rafal, Warsaw, POLAND
Grzywacz, Pawel, Madison, WI, UNITED STATES
Plum, Lori A., Arena, WI, UNITED STATES
Clagett-Dame, Margaret, Deerfield, WI, UNITED STATES
PATENT ASSIGNEE(S): Wisconsin Alumni Research Foundation (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 20070112077	A1	20070517	
	US 7534777	B2	20090519	
APPLICATION INFO.:	US 2006-512705	A1	20060830	(11)

	NUMBER	DATE	
PRIORITY INFORMATION:	US 2005-712365P	20050830	(60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: FOLEY & LARDNER LLP, 150 EAST GILMAN STREET, P.O. BOX 1497, MADISON, WI, 53701-1497, US
NUMBER OF CLAIMS: 20
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 4 Drawing Page(s)
LINE COUNT: 1104
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Des-C,D 2-methylene-19-norvitamin D.sub.3 analogs are provided including compounds of formula 1, in which R.sup.1 is a straight or branched chain

alkyl or alkylene group having from 8 to 27 carbons and bearing an Oy.sup.3 group; and y.sup.1, y.sup.2 and y.sup.3 are independently selected from H or hydroxy-protecting groups. Such compounds may be used in preparing pharmaceutical compositions and are useful in treating a variety of biological conditions. ##STR1##

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM . . . In some embodiments, the compounds and compositions of the invention are used to treat a biological condition selected from psoriasis; leukemia; colon cancer; breast cancer; prostate cancer; multiple sclerosis; lupus; diabetes mellitus; host versus graft reaction; rejection of organ transplants; an inflammatory disease selected from rheumatoid arthritis, asthma, eczema, or inflammatory bowel diseases; a skin condition selected from wrinkles, lack of adequate skin firmness, lack of adequate dermal hydration, or insufficient sebum secretion; or secondary hyperparathyroidism.

CLM What is claimed is:
20. The method of claim 17, wherein the biological condition is selected from psoriasis; leukemia; colon cancer; breast cancer; prostate cancer; multiple sclerosis; lupus; diabetes mellitus; host versus graft reaction; rejection of organ transplants; an inflammatory disease selected from rheumatoid arthritis, asthma, eczema, or inflammatory bowel diseases; a skin condition selected from wrinkles, lack of adequate skin firmness, lack of adequate dermal hydration, or insufficient sebum secretion; or secondary hyperparathyroidism.

IT Intestine, disease
(inflammatory; preparation of des-C,D analogs of dihydroxynorvitamin D3 as pharmaceuticals)

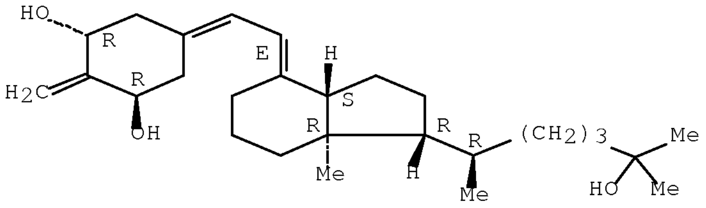
IT 213319-29-0DP, 2-Methylene-1α,25-dihydroxy-19-norvitamin D3, des-C,D analogs 928257-70-9P
(preparation of des-C,D analogs of dihydroxynorvitamin D3 as pharmaceuticals)

IT 213319-29-0DP, 2-Methylene-1α,25-dihydroxy-19-norvitamin D3, des-C,D analogs
(preparation of des-C,D analogs of dihydroxynorvitamin D3 as pharmaceuticals)

RN 213319-29-0 USPATFULL

CN 1,3-Cyclohexanediol, 2-methylene-5-[(2E)-2-[(1R,3aS,7aR)-octahydro-1-[(1R)-5-hydroxy-1,5-dimethylhexyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, (1R,3R)- (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



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L33  ANSWER 20 OF 24  USPATFULL on STN
ACCESSION NUMBER:       2006:215565  USPATFULL  Full-text
TITLE:                  2-Methylene-19-nor-(20S-24epi)-1alpha,25-
                        dihydroxyvitamin D2
INVENTOR(S):            DeLuca, Hector F., Deerfield, WI, UNITED STATES
                        Plum, Lori A., Arena, WI, UNITED STATES
                        Clagett-Dame, Margaret, Deerfield, WI, UNITED STATES
PATENT ASSIGNEE(S):     Wisconsin Alumni Research Foundation (U.S. corporation)

                             NUMBER       KIND    DATE
                        ---------------- ------ --------
PATENT INFORMATION:     US 20060183721     A1   20060817
                        US 7511030         B2   20090331
APPLICATION INFO.:      US 2006-351874     A1   20060210  (11)

                               NUMBER            DATE
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PRIORITY INFORMATION:   US 2005-652044P         20050211 (60)
DOCUMENT TYPE:          Utility
FILE SEGMENT:           APPLICATION
LEGAL REPRESENTATIVE:   FOLEY & LARDNER LLP, 150 EAST GILMAN STREET, P.O. BOX
                        1497, MADISON, WI, 53701-1497, US
NUMBER OF CLAIMS:       19
EXEMPLARY CLAIM:        1
NUMBER OF DRAWINGS:     5 Drawing Page(s)
LINE COUNT:             606
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB       Compounds of formula I are provided where X.sup.1, X.sup.2, and X.sup.3 are
         independently selected from H or hydroxy protecting groups. Such compounds
         may be used in preparing pharmaceutical compositions and are useful in
         treating a variety of biological conditions.    ##STR1##


CAS INDEXING IS AVAILABLE FOR THIS PATENT.
SUMM     .  .  .  for treatment and prophylaxis of human disorders which are
        characterized by an imbalance in the immune system, e.g. in autoimmune
        diseases, including multiple sclerosis, lupus, diabetes mellitus, host
        versus graft reaction, and rejection of organ transplants; and
        additionally for the treatment of inflammatory diseases, such as
        rheumatoid arthritis, asthma, and inflammatory bowel
        diseases such as celiac disease, ulcerative colitis and
        Crohn's disease. Acne,.alopecia and hypertension are other
        conditions which may be treated with the compound of the invention.
DETD     .  .  .  of dialysis patients or in the treatment of bone loss
        disorders such as osteoporosis. It may also be used for the treatment of
        malignancy of colon, prostate, and breast, and can be used in the
        therapy of autoimmune diseases such as multiple sclerosis, diabetes type
        1 and type 2 diabetes, inflammatory bowel diseases,
        lupus, rheumatoid arthritis and Lou Gehrig's Disease.
CLM     What is claimed is:
 .  .  .  administering an effective amount of the compound of claim 4 to the
        subject, wherein the biological condition is selected from psoriasis;
        leukemia; colon cancer; breast cancer; prostate cancer; multiple
        sclerosis; lupus; diabetes mellitus; host versus graft reaction;
        rejection of organ transplants; an inflammatory disease selected from
        rheumatoid arthritis, asthma, or inflammatory bowel
        diseases; a skin condition selected from wrinkles, lack of adequate skin
        firmness, lack of adequate dermal hydration, or insufficient sebum
        secretion; renal osteodystrophy; or osteoporosis.
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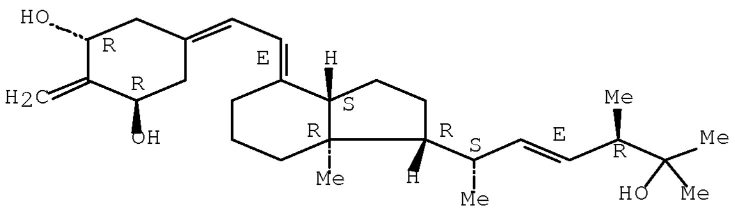
CLM    What is claimed is:
       12. The method of claim 8, wherein the biological condition is selected
       from rheumatoid arthritis, asthma, or inflammatory
       bowel diseases selected from celiac disease, ulcerative
       colitis and Crohn's disease.

IT    Inflammation
        (Crohn's disease; preparation of methylene-19-nordihydroxyvitamin
        D2 for pharmaceutical use)
IT    Intestine, disease
        (Crohn's; preparation of methylene-19-nordihydroxyvitamin D2 for
        pharmaceutical use)
IT    Intestine, disease
        (inflammatory; preparation of methylene-19-nordihydroxyvitamin D2
        for pharmaceutical use)
IT    Inflammation
IT    Intestine, disease
        (ulcerative colitis; preparation of
        methylene-19-nordihydroxyvitamin D2 for pharmaceutical use)
IT  905930-97-4P
        (preparation of methylene-19-nordihydroxyvitamin D2 for pharmaceutical use)
IT  905930-97-4P
        (preparation of methylene-19-nordihydroxyvitamin D2 for pharmaceutical use)
RN   905930-97-4  USPATFULL
CN   1,3-Cyclohexanediol, 2-methylene-5-[(2E)-2-[(1R,3aS,7aR)-octahydro-1-
       [(1S,2E,4R)-5-hydroxy-1,4,5-trimethyl-2-hexen-1-yl]-7a-methyl-4H-inden-4-
       ylidene]ethylidene]-, (1R,3R)-  (CA INDEX NAME)

       Absolute stereochemistry.
       Double bond geometry as shown.
```



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L33  ANSWER 21 OF 24  USPATFULL on STN
ACCESSION NUMBER:       2006:215560  USPATFULL  Full-text
TITLE:                  2-Methylene-19-nor-(20S-24S)-1alpha,25-dihydroxyvitamin
                        D2
INVENTOR(S):            DeLuca, Hector F., Deerfield, WI, UNITED STATES
                        Plum, Lori A., Arena, WI, UNITED STATES
                        Clagett-Dame, Margaret, Deerfield, WI, UNITED STATES
PATENT ASSIGNEE(S):     Wisconsin Alumni Research Foundation (U.S. corporation)

                            NUMBER        KIND    DATE
                        --------------- ------ --------
PATENT INFORMATION:     US 20060183716     A1   20060817
                        US 7563783         B2   20090721
APPLICATION INFO.:      US 2006-352454     A1   20060210  (11)

                              NUMBER           DATE
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PRIORITY INFORMATION:   US 2005-652473P        20050211 (60)
DOCUMENT TYPE:          Utility
FILE SEGMENT:           APPLICATION
LEGAL REPRESENTATIVE:   FOLEY & LARDNER LLP, 150 EAST GILMAN STREET, P.O. BOX
                        1497, MADISON, WI, 53701-1497, US
NUMBER OF CLAIMS:       19
EXEMPLARY CLAIM:        1
NUMBER OF DRAWINGS:     5 Drawing Page(s)
LINE COUNT:             605
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB      Compounds of formula I are provided where X.sup.1, X.sup.2, and X.sup.3 are
        independently selected from H or hydroxy protecting groups. Such compounds
        may be used in preparing pharmaceutical compositions and are useful in
        treating a variety of biological conditions.    ##STR1##

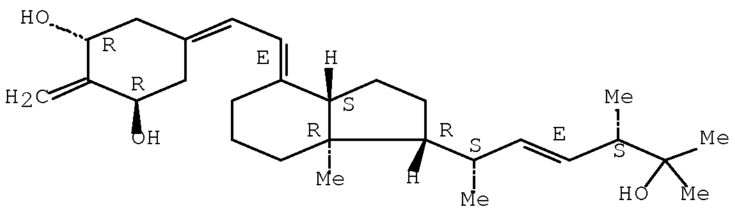

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
SUMM    .  .  .  for treatment and prophylaxis of human disorders which are
       characterized by an imbalance in the immune system, e.g. in autoimmune
       diseases, including multiple sclerosis, lupus, diabetes mellitus, host
       versus graft reaction, and rejection of organ transplants; and
       additionally for the treatment of inflammatory diseases, such as
       rheumatoid arthritis, asthma, and inflammatory bowel
       diseases such as celiac disease, ulcerative colitis and
       Crohn's disease. Acne, alopecia and hypertension are other
       conditions which may be treated with the compound of the invention.
DETD    .  .  .  calcium imbalance disorders such as, but not limited to,
       osteopenia, osteoporosis, and the like. It may also be used for the
       treatment of malignancy of colon, prostate, and breast, and can be used
       in the therapy of autoimmune diseases such as multiple sclerosis,
       diabetes type 1 and type 2 diabetes, inflammatory
       bowel diseases, lupus, rheumatoid arthritis and Lou Gehrig's
       Disease.
CLM    What is claimed is:
 .  .  .  administering an effective amount of the compound of claim 4 to the
       subject, wherein the biological condition is selected from psoriasis;
       leukemia; colon cancer; breast cancer; prostate cancer; multiple
       sclerosis; lupus; diabetes mellitus,; host versus graft reaction;
       rejection of organ transplants; an inflammatory disease selected from
       rheumatoid arthritis, asthma, or inflammatory bowel
       diseases; a skin condition selected from wrinkles, lack of adequate skin
       firmness, lack of adequate dermal hydration, or insufficient sebum
       secretion; renal osteodystrophy; or osteoporosis.

CLM    What is claimed is:
       12. The method of claim 8, wherein the biological condition is selected
       from rheumatoid arthritis, asthma, or inflammatory
       bowel diseases selected from celiac disease, ulcerative
       colitis and Crohn's disease.

IT    Inflammation
        (Crohn's disease; preparation of methylene-nordihydroxyvitamin D2
        for pharmaceutical use)
IT    Intestine, disease
        (Crohn's; preparation of methylene-nordihydroxyvitamin D2 for
        pharmaceutical use)
IT    Intestine, disease
        (inflammatory; preparation of methylene-nordihydroxyvitamin D2 for
        pharmaceutical use)
IT    Inflammation
```

IT Intestine, disease
(ulcerative colitis; preparation of methylene-nordihydroxyvitamin D2 for pharmaceutical use)
IT 905932-27-6P
(preparation of methylene-nordihydroxyvitamin D2 for pharmaceutical use)
IT 905932-27-6P
(preparation of methylene-nordihydroxyvitamin D2 for pharmaceutical use)
RN 905932-27-6 USPATFULL
CN 1,3-Cyclohexanediol, 2-methylene-5-[(2E)-2-[(1R,3aS,7aR)-octahydro-1-[(1S,2E,4S)-5-hydroxy-1,4,5-trimethyl-2-hexen-1-yl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, (1R,3R)- (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L33 ANSWER 22 OF 24 USPATFULL on STN
ACCESSION NUMBER: 2005:261922 USPATFULL Full-text
TITLE: 2-alkylidene-18,19-dinor-vitamin D compounds
INVENTOR(S): DeLuca, Hector F., Deerfield, WI, UNITED STATES
Barycki, Rafal, Madison, WI, UNITED STATES
Grzywacz, Pawel K., Madison, WI, UNITED STATES
Plum, Lori A., Madison, WI, UNITED STATES
Sicinski, Rafal R., Madison, WI, UNITED STATES

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 20050227950	A1	20051013	
APPLICATION INFO.:	US 2004-821828	A1	20040409	(10)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: ANDRUS, SCEALES, STARKE & SAWALL, LLP, 100 EAST WISCONSIN AVENUE, SUITE 1100, MILWAUKEE, WI, 53202, US
NUMBER OF CLAIMS: 71
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 6 Drawing Page(s)
LINE COUNT: 1530
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB 2-alkylidene-18,19-dinor-vitamin D compounds are disclosed as well as pharmaceutical uses for these compounds and methods of synthesizing these compounds. These compounds are characterized by low bone calcium mobilization activity and high intestinal calcium transport activity. This results in novel therapeutic agents for the treatment and prophylaxis of diseases where bone formation is desired, particularly osteoporosis, as well as autoimmune diseases such as multiple sclerosis, diabetes mellitus and lupus. These compounds also exhibit pronounced activity in arresting the proliferation of undifferentiated cells and inducing their differentiation to the monocyte thus evidencing use as an anti-cancer agent and for the treatment of skin diseases such as psoriasis. These compounds also increase

both breaking strength and crushing strength of bones evidencing use in conjunction with bone replacement surgery such as hip and knee replacements.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM . . . treatment and prophylaxis of human disorders which are characterized by an imbalance in the immune system, e.g. in autoimmune diseases, including multiple sclerosis, diabetes mellitus, lupus, host versus graft reaction, and rejection of transplants; and additionally for the treatment and prophylaxis of inflammatory diseases, such as rheumatoid arthritis, asthma, and inflammatory bowel diseases such as Crohn's disease or ulcerative colitis, as well as the improvement of bone fracture healing and improved bone grafts. It has also been discovered that these compounds increase breaking strength (cortical strength) as well as crushing strength (trabecular strength) of bones. Thus, these compounds could also be used in conjunction with bone replacement procedures such as. . .

CLM What is claimed is:
64. A method of treating an inflammatory bowel disease comprising administering to a patient with said disease an effective amount of a compound having the formula ##STR45## where Y.sub.1 and Y.sub.2 which the same or different, are each selected from the group consisting of hydrogen and a hydroxy-protecting group, R.sub.6 and R.sub.8, which may be the same or. . .

CLM What is claimed is:
65. The method of claim 64 wherein the disease is Crohn's disease.

CLM What is claimed is:
66. The method of claim 64 wherein the disease is ulcerative colitis.

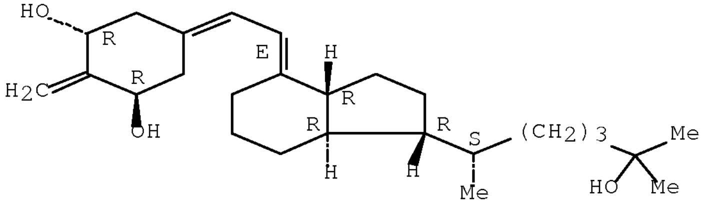
IT 852658-52-7P
(preparation of 2-alkylidene-18,19-dinor-vitamin D compds. as therapeutic agents)

IT 852658-52-7P
(preparation of 2-alkylidene-18,19-dinor-vitamin D compds. as therapeutic agents)

RN 852658-52-7 USPATFULL

CN 1,3-Cyclohexanediol, 2-methylene-5-[(2E)-2-[(1R,3aR,7aR)-octahydro-1-[(1S)-5-hydroxy-1,5-dimethylhexyl]-4H-inden-4-ylidene]ethylidene]-, (1R,3R)- (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L33 ANSWER 23 OF 24 USPATFULL on STN
ACCESSION NUMBER: 2005:138592 USPATFULL Full-text

```
TITLE:                  Vitamin D analogs for obesity prevention and treatment
INVENTOR(S):            DeLuca, Hector F., Deerfield, WI, UNITED STATES
                        Clagett-Dame, Margaret, Deerfield, WI, UNITED STATES
                        Ahrens, Jamie M., Mt. Horeb, WI, UNITED STATES
                        Ntambi, James M., Madison, WI, UNITED STATES
                        Thomson, Brian, Madison, WI, UNITED STATES
PATENT ASSIGNEE(S):     Wisconsin Alumni Research Foundation (U.S. corporation)

                             NUMBER       KIND    DATE
                        ---------------- ------ --------
PATENT INFORMATION:     US 20050119242     A1   20050602
APPLICATION INFO.:      US 2004-997698     A1   20041124  (10)

                               NUMBER           DATE
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PRIORITY INFORMATION:   US 2003-524798P         20031125 (60)
                        US 2003-524813P         20031125 (60)
DOCUMENT TYPE:          Utility
FILE SEGMENT:           APPLICATION
LEGAL REPRESENTATIVE:   FOLEY & LARDNER, 150 EAST GILMAN STREET, P.O. BOX 1497,
                        MADISON, WI, 53701-1497, US
NUMBER OF CLAIMS:       58
EXEMPLARY CLAIM:        1
NUMBER OF DRAWINGS:     20 Drawing Page(s)
LINE COUNT:             4654
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB      Methods for treating and preventing obesity, inhibiting adipocyte
        differentiation, inhibiting increased SCD-1 gene transcription, and/or
        reducing body fat in a subject include administering at least one analog of
        1α,25-dihydroxyvitamin D.sub.3 or 1α,25-dihydroxyvitamin D.sub.2 or a
        pharmaceutical composition that includes such an analog to a subject in need
        thereof. The analog may be a 19-nor vitamin D analog such as a compound of
        formula IA, a compound of formula IB, or a mixture thereof where the
        variables R.sup.1, R.sup.2, and R.sup.3 have the values described herein.
        ##STR1##


CAS INDEXING IS AVAILABLE FOR THIS PATENT.
DETD     . . .  other vital organs while it suppresses parathyroid gland
       proliferation and transcription of the preproparathyroid gene.
       (20R)2MbisP should also be useful in the treatment of malignancy such as
       breast, colorectal and prostate cancers, or in the treatment of
       autoimmune diseases such as multiple sclerosis, lupus, rheumatoid
       arthritis, type 1 diabetes, and inflammatory bowel
       disease. (20R)2MbisP should also be useful in preventing transplant
       rejection.
DETD     . . .  2-MtrisP will find use as an effective therapy for secondary
       hyperparathroidism of dialysis patients. 2-MtrisP may also be used for
       the treatment of malignancy of colon, prostate, and breast, and can be
       used in the therapy of autoimmune diseases such as multiple sclerosis,
       diabetes type 1 and type 2 diabetes, inflammatory
       bowel diseases, lupus, rheumatoid arthritis and Lou Gehrig's
       Disease.
IT  213250-70-5P   524067-20-7P   524067-21-8P   524067-22-9P
     736995-69-0P   781664-41-3P   781664-72-0P   852658-44-7P   852658-46-9P
     852658-48-1P   852658-50-5P   852658-51-6P 852658-52-7P
     852658-54-9P   852658-70-9P   852932-06-0P   852947-04-7P
        (vitamin D analogs for obesity prevention and treatment)
IT     60133-18-8D, 1α-25-Dihydroxyvitamin D2, analog   131918-61-1
     766529-87-7   781664-40-2   781664-71-9 845815-92-1
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      852932-01-5   852932-02-6   852932-03-7
         (vitamin D analogs for obesity prevention and treatment)
IT   213250-70-5P 852658-52-7P
         (vitamin D analogs for obesity prevention and treatment)
RN   213250-70-5  USPATFULL
CN   1,3-Cyclohexanediol, 2-methylene-5-[(2E)-2-[(1R,3aS,7aR)-octahydro-1-[(1S)-
       5-hydroxy-1,5-dimethylhexyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-,
       (1R,3R)-  (CA INDEX NAME)

       Absolute stereochemistry.
       Double bond geometry as shown.
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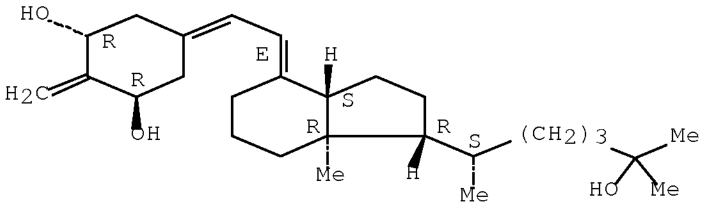

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RN   852658-52-7  USPATFULL
CN   1,3-Cyclohexanediol, 2-methylene-5-[(2E)-2-[(1R,3aR,7aR)-octahydro-1-[(1S)-
       5-hydroxy-1,5-dimethylhexyl]-4H-inden-4-ylidene]ethylidene]-, (1R,3R)-
       (CA INDEX NAME)

       Absolute stereochemistry.
       Double bond geometry as shown.
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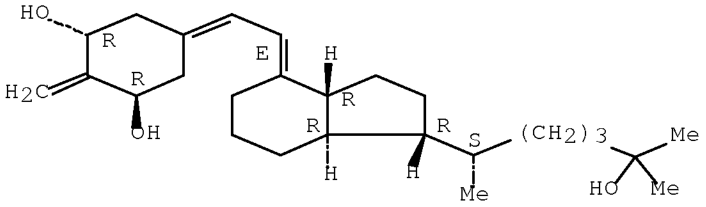

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IT   845815-92-1
         (vitamin D analogs for obesity prevention and treatment)
RN   845815-92-1  USPATFULL
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       Absolute stereochemistry.
       Double bond geometry as shown.
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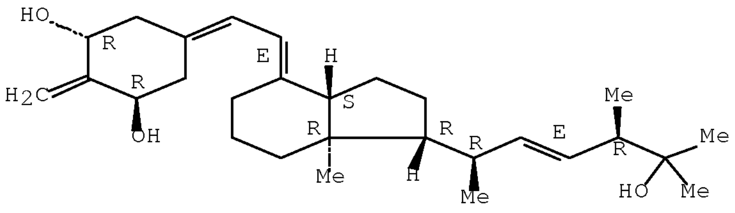

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L33  ANSWER 24 OF 24  USPATFULL on STN
ACCESSION NUMBER:       2004:70585  USPATFULL  Full-text
TITLE:                  Method of extending the dose range of vitamin D
                        compounds
INVENTOR(S):            DeLuca, Hector F., Deerfield, WI, UNITED STATES
                        Pike, John W., Madison, WI, UNITED STATES
                        Shevde, Nirupama, Madison, WI, UNITED STATES
                        Plum, Lori A., Madison, WI, UNITED STATES
                        Clagett-Dame, Margaret, Deerfield, WI, UNITED STATES

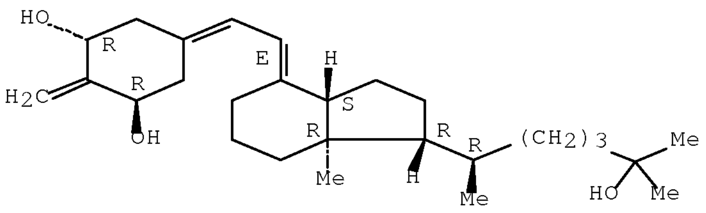
                            NUMBER       KIND    DATE
                        ---------------- ------ --------
PATENT INFORMATION:     US 20040053813     A1   20040318
                        US 7259143         B2   20070821
APPLICATION INFO.:      US 2002-235244     A1   20020905  (10)
DOCUMENT TYPE:          Utility
FILE SEGMENT:           APPLICATION
LEGAL REPRESENTATIVE:   ANDRUS, SCEALES, STARKE & SAWALL, LLP, 100 EAST
                        WISCONSIN AVENUE, SUITE 1100, MILWAUKEE, WI, 53202
NUMBER OF CLAIMS:       68
EXEMPLARY CLAIM:        1
NUMBER OF DRAWINGS:     2 Drawing Page(s)
LINE COUNT:             1122
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB      Inhibitors of bone calcium resorption are administered to allow high doses
        of vitamin D compounds or mimetics to be given with the intent of treating
        non-calcium related diseases such as cancer, psoriasis, and autoimmune
        disease without the dangers of calcification of kidney, heart, and aorta.
        Inhibitors of bone calcium resorption include the bis-phosphonates, OPG or
        the soluble RANKL receptor known as sRANK, and function to block the
        availability of calcium from bone thereby preventing hypercalcemia and the
        resulting calcification of soft tissues. Thus, high doses of 1α,25-
        dihydroxyvitamin D.sub.3 (1,25-(OH).sub.2D.sub.3), its analogs, prodrugs, or
        mimetics can be utilized with minimal risk to a patient. Specifically,
        alendronate is shown to block the bone calcium mobilization activity of both
        1,25-(OH).sub.2D.sub.3 and its very potent analog, 2-methylene-19-nor-(20S)-
        1α,25-dihydroxyvitamin D.sub.3.


CAS INDEXING IS AVAILABLE FOR THIS PATENT.
SUMM   . . .  effective amount of a bone calcium resorption inhibitor and an
       effective amount of a vitamin D compound or vitamin D mimetic in an
       appropriate dosage schedule. Yet another aspect of the present invention
       is a method of treating an autoimmune disease selected from the group
       consisting of multiple sclerosis, lupis, inflammatory
       bowel disease, Type I diabetes, host versus graft reaction, and
       rejection of organ transplants, comprising administering to a patient
       with said disease an effective amount of a bone calcium resorption
       inhibitor and an effective amount of a vitamin D compound or vitamin D
       mimetic in an appropriate dosage schedule.
CLM    What is claimed is:
       43. A method of treating an autoimmune disease selected from the group
       consisting of multiple sclerosis, lupis, inflammatory
       bowel disease, Type I diabetes, host versus graft reaction, and
       rejection of organ transplants, comprising administering to a patient
       with said disease in an appropriate dosage schedule an effective amount
       of a bone calcium resorption inhibitor and an effective amount of a
```

vitamin D compound.

IT 1406-16-2D, Vitamin D, derivs. 32222-06-3, 1α,25-Dihydroxyvitamin
D 3 213319-29-0
(method of extending dose range of vitamin D compds.)
IT 213319-29-0
(method of extending dose range of vitamin D compds.)
RN 213319-29-0 USPATFULL
CN 1,3-Cyclohexanediol, 2-methylene-5-[(2E)-2-[(1R,3aS,7aR)-octahydro-1-[(1R)-5-hydroxy-1,5-dimethylhexyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, (1R,3R)- (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



STRUCTURE SEARCH

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FILE 'REGISTRY' ENTERED AT 15:45:31 ON 17 DEC 2009
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STRUCTURE FILE UPDATES:   16 DEC 2009  HIGHEST RN 1197964-91-2
DICTIONARY FILE UPDATES:  16 DEC 2009  HIGHEST RN 1197964-91-2

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TSCA INFORMATION NOW CURRENT THROUGH June 26, 2009.

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l29; s l29 not l32
L4              STR
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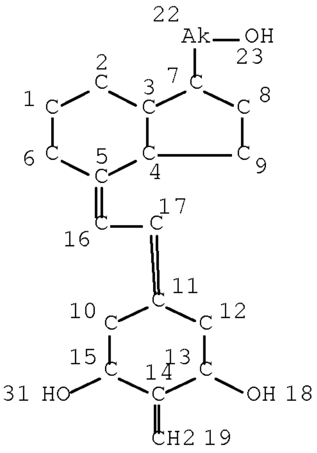

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NODE ATTRIBUTES:
CONNECT IS E2  RC AT  22
DEFAULT MLEVEL IS ATOM
MLEVEL  IS CLASS  AT  22
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  22
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STEREO ATTRIBUTES: NONE
L6          28 SEA FILE=REGISTRY SSS FUL L4

100.0% PROCESSED     436 ITERATIONS                            28 ANSWERS
SEARCH TIME: 00.00.01




FILE 'HCAPLUS' ENTERED AT 15:46:01 ON 17 DEC 2009
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FILE COVERS 1907 - 17 Dec 2009  VOL 151 ISS 25
FILE LAST UPDATED: 16 Dec 2009  (20091216/ED)
REVISED CLASS FIELDS (/NCL) LAST RELOADED:  Oct 2009
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE:  Oct 2009

HCAplus now includes complete International Patent Classification (IPC)
reclassification data for the third quarter of 2009.

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This file contains CAS Registry Numbers for easy and accurate
substance identification.
'OBI' IS DEFAULT SEARCH FIELD FOR 'HCAPLUS' FILE


L4              STR
L6           28 SEA FILE=REGISTRY SSS FUL L4
L11          89 SEA FILE=HCAPLUS SPE=ON  ABB=ON  L6
L12       71505 SEA FILE=HCAPLUS SPE=ON  ABB=ON  INTESTINAL DISEASE+OLD,NT/CT
L13       15538 SEA FILE=HCAPLUS SPE=ON  ABB=ON  INFLAM?/OBI(L)(BOWEL#/OBI OR
                INTESTINE#/OBI)
L14        9083 SEA FILE=HCAPLUS SPE=ON  ABB=ON  (COLON/OBI OR COLITIS/OBI)(L)U
                LCER?/OBI
L15       10557 SEA FILE=HCAPLUS SPE=ON  ABB=ON  CROHN?/OBI
L16       13684 SEA FILE=HCAPLUS SPE=ON  ABB=ON  COLITIS/OBI
L20          13 SEA FILE=HCAPLUS SPE=ON  ABB=ON  L11 AND (L12 OR L13 OR L14 OR
                L15 OR L16)


L34           2 L20 NOT L19    L19=INVENTOR SEARCH ANSWER SET
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FILE 'USPATFULL' ENTERED AT 15:46:01 ON 17 DEC 2009
CA INDEXING COPYRIGHT (C) 2009 AMERICAN CHEMICAL SOCIETY (ACS)

FILE COVERS 1971 TO PATENT PUBLICATION DATE: 17 Dec 2009 (20091217/PD)
FILE LAST UPDATED: 17 Dec 2009 (20091217/ED)
HIGHEST GRANTED PATENT NUMBER: US7634817
HIGHEST APPLICATION PUBLICATION NUMBER: US20090313735
CA INDEXING IS CURRENT THROUGH 17 Dec 2009 (20091217/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 17 Dec 2009 (20091217/PD)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Oct 2009
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Oct 2009

USPATFULL now includes complete International Patent Classification (IPC)
reclassification data for the third quarter of 2009.

To ensure comprehensive retrieval of US patent information, including
US patent application information, search USPATFULL in combination with
USPAT2.


L4                STR
L6             28 SEA FILE=REGISTRY SSS FUL L4
L22            75 SEA FILE=USPATFULL SPE=ON  ABB=ON  L6
L23         24135 SEA FILE=USPATFULL SPE=ON  ABB=ON  INFLAM?(2A)(BOWEL# OR
                  INTESTINE#)
L24          6400 SEA FILE=USPATFULL SPE=ON  ABB=ON  (INFLAM?(2A)(BOWEL# OR
                  INTESTINE#))/IT
L25         24537 SEA FILE=USPATFULL SPE=ON  ABB=ON  CROHN? OR CROHN?/IT
L26         24809 SEA FILE=USPATFULL SPE=ON  ABB=ON  COLITIS OR COLITIS/IT
L27          3188 SEA FILE=USPATFULL SPE=ON  ABB=ON  (INTESTIN? OR COLON)(3A)ULCE
                  R?
L28          3559 SEA FILE=USPATFULL SPE=ON  ABB=ON  ((INTESTIN? OR COLON)(3A)ULC
                  ER?)/IT
L29            21 SEA FILE=USPATFULL SPE=ON  ABB=ON  L22 AND (L23 OR L24 OR L25
                  OR L26 OR L27 OR L28)



L35             1 L29 NOT L32    L32=INVENTOR SEARCH ANSWER SET

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FILE 'HCAPLUS' ENTERED AT 15:46:08 ON 17 DEC 2009
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FILE 'USPATFULL' ENTERED AT 15:46:08 ON 17 DEC 2009
CA INDEXING COPYRIGHT (C) 2009 AMERICAN CHEMICAL SOCIETY (ACS)
PROCESSING COMPLETED FOR L34
PROCESSING COMPLETED FOR L35
L36             2 DUP REM L34 L35 (1 DUPLICATE REMOVED)
                  ANSWERS '1-2' FROM FILE HCAPLUS

=> d ibib abs hitind hitstr 1-2; fil hom

L36  ANSWER 1 OF 2  HCAPLUS  COPYRIGHT 2009 ACS on STN DUPLICATE 1
ACCESSION NUMBER:         2009:616018  HCAPLUS  Full-text
DOCUMENT NUMBER:          150:539935
TITLE:                    Preparation of vitamin D derivatives as vitamin D
                          receptor activators
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INVENTOR(S):             Von Geldern, Thomas W.; Barkalow, Jufang H.; Barnes,
                         David M.; Haight, Anthony R.; Hengeveld, John E.; Li,
                         Xiaofeng; McLaughlin, Maureen A.; Noonan, William T.;
                         Pei, Zhonghua; Wu-Wong, Jinshyun Ruth
PATENT ASSIGNEE(S):      Abbott Laboratories, USA
SOURCE:                  U.S. Pat. Appl. Publ., 55pp.
                         CODEN: USXXCO
DOCUMENT TYPE:           Patent
LANGUAGE:                English
FAMILY ACC. NUM. COUNT:  2
PATENT INFORMATION:

    PATENT NO.          KIND   DATE       APPLICATION NO.        DATE
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    US 20090131379       A1    20090521   US 2008-205998         20080908
    WO 2009067578        A2    20090528   WO 2008-US84142        20081120
    WO 2009067578        A3    20091126
        W:  AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ,
            CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES,
            FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE,
            KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD,
            ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH,
            PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ,
            TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
        RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU,
            IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK,
            TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD,
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PRIORITY APPLN. INFO.:                    US 2007-989167P     P  20071120
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ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
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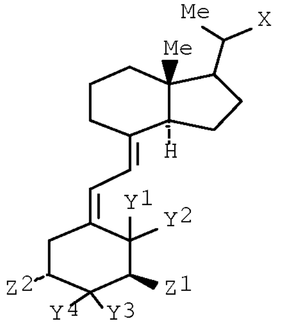

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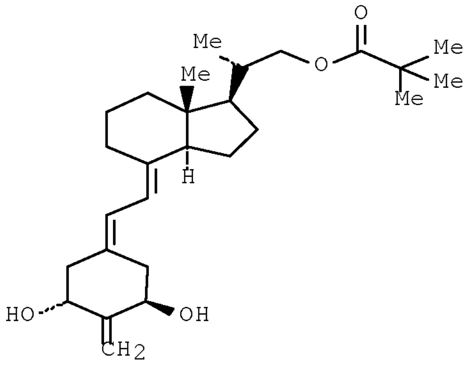

II

AB Vitamin D derivs. of formula I [X = CH2OR, (substituted) alkyl, etc.; R = H, alkyl, aryl, acyl, etc.; Y1-Y4 = H; Y1Y2, Y3Y4 = methylene; Z1 = F, OH, CH2OH; Z2 = F, OH] are prepared as vitamin D receptor activators for the treatment of various diseases. Thus, II was prepared, and had EC50 = 1.9 nM in HL-60 differentiation assay.

INCL 514167000; 552653000

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CC   32-7 (Steroids)
     Section cross-reference(s): 2, 63
IT   Antiarthritics
     Anticoagulants
     Antidiabetic agents
     Antihypertensives
     Antiosteoporotic agents
     Antitumor agents
     Arthritis
     Autoimmune disease
     Bone, disease
     Cardiac hypertrophy
     Cardiovascular agents
     Cardiovascular disease
       Colon neoplasm
     Drug delivery systems
     Human
     Hyperparathyroidism
     Hypertension
     Immune disease
     Immunomodulators
     Immunosuppressants
     Immunosuppression
       Inflammatory bowel disease
     Kidney disease
     Leukemia
     Mammary gland, neoplasm
     Multiple sclerosis
     Osteomalacia
     Osteoporosis
     Prostate gland, neoplasm
     Psoriasis
     Systemic lupus erythematosis
     Thrombosis
     Transplant rejection
        (preparation of vitamin D derivs. as vitamin D receptor activators)
IT   1154605-91-0P   1154605-93-2P   1154605-95-4P   1154605-98-7P
     1154606-00-4P   1154606-01-5P   1154606-04-8P   1154606-06-0P
     1154606-08-2P   1154606-09-3P   1154606-12-8P   1154606-14-0P
     1154606-16-2P   1154606-17-3P   1154606-20-8P   1154606-22-0P
     1154606-24-2P   1154606-26-4P
     RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
     (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
     (Uses)
        (preparation of vitamin D derivs. as vitamin D receptor activators)
IT   1154605-93-2P
     RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
     (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
     (Uses)
        (preparation of vitamin D derivs. as vitamin D receptor activators)
RN   1154605-93-2  HCAPLUS
CN   1,3-Cyclohexanediol, 2-methylene-5-[(2E)-2-[(1R,3aS,7aR)-octahydro-1-[(1S)-
     2-hydroxy-1-methylethyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-,
     (1R,3R)-  (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.
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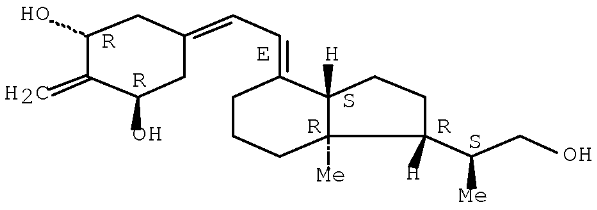

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L36  ANSWER 2 OF 2  HCAPLUS  COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER:         2009:646590  HCAPLUS  Full-text
DOCUMENT NUMBER:          150:539936
TITLE:                    Preparation of vitamin D derivatives as vitamin D
                          receptor activators
INVENTOR(S):              Von Geldern, Thomas W.; Burkalow, Jufang H.; Barnes,
                          David M.; Haight, Anghony R.; Hengeveld, John E.; Li,
                          Xiaofeng; McLaughlin, Maureen A.; Noonan, William T.;
                          Pei, Zhonghua; Wu-Wong, Jinshyun Ruth
PATENT ASSIGNEE(S):       Abbott Laboratories, USA
SOURCE:                   PCT Int. Appl., 138pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   2
PATENT INFORMATION:

     PATENT NO.          KIND   DATE       APPLICATION NO.       DATE
     ---------------     ----   --------   --------------------  --------
     WO 2009067578        A2    20090528   WO 2008-US84142       20081120
     WO 2009067578        A3    20091126
         W:  AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ,
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             FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE,
             KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD,
             ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH,
             PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ,
             TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
         RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU,
             IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK,
             TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD,
             TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,
             AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AP, EA, EP, OA
     US 20090131379       A1    20090521   US 2008-205998         20080908
PRIORITY APPLN. INFO.:                     US 2007-989167P     P  20071120
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ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OTHER SOURCE(S):          MARPAT 150:539936
GI
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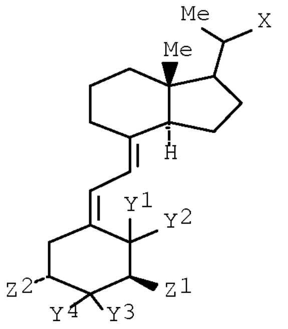

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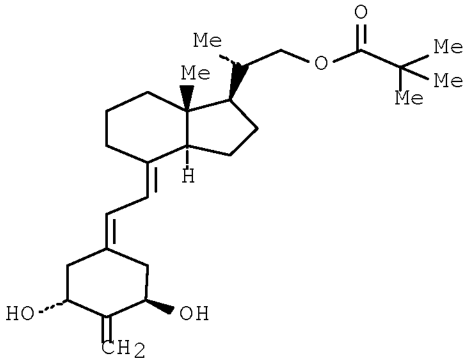

II

```
AB    Vitamin D derivs. of formula I [X = CH2OR, (substituted) alkyl, etc.; R = H,
      alkyl, aryl, acyl, etc.; Y1-Y4 = H; Y1Y2, Y3Y4 = methylene; Z1 = F, OH, CH2OH;
      Z2 = F, OH] are prepared as vitamin D receptor activators for the treatment of
      various diseases.  Thus, II was prepared, and had EC50 = 1.9 nM in HL-60
      differentiation assay.
CC    32-7 (Steroids)
      Section cross-reference(s): 2, 63
IT    Antiarthritics
      Anticoagulants
      Antidiabetic agents
      Antihypertensives
      Antiosteoporotic agents
      Antitumor agents
      Arthritis
      Autoimmune disease
      Bone, disease
      Cardiac hypertrophy
      Cardiovascular agents
      Cardiovascular disease
        Colon neoplasm
      Drug delivery systems
      Human
      Hyperparathyroidism
      Hypertension
      Immune disease
      Immunomodulators
      Immunosuppressants
      Immunosuppression
        Inflammatory bowel disease
      Kidney disease
      Leukemia
      Mammary gland, neoplasm
      Multiple sclerosis
      Osteomalacia
      Osteoporosis
      Prostate gland, neoplasm
      Psoriasis
      Systemic lupus erythematosis
      Thrombosis
      Transplant rejection
         (preparation of vitamin D derivs. as vitamin D receptor activators)
IT    1154605-91-0P   1154605-93-2P   1154605-95-4P   1154605-98-7P
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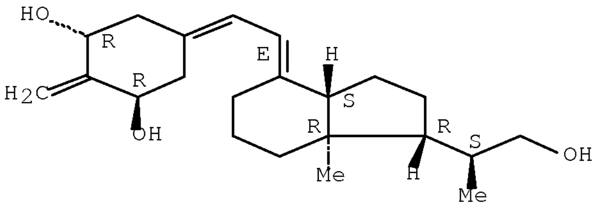
     1154606-16-2P   1154606-17-3P   1154606-20-8P   1154606-22-0P
     1154606-24-2P   1154606-26-4P
     RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
     (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
     (Uses)
        (preparation of vitamin D derivs. as vitamin D receptor activators)
IT   1154605-93-2P
     RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
     (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
     (Uses)
        (preparation of vitamin D derivs. as vitamin D receptor activators)
RN   1154605-93-2  HCAPLUS
CN   1,3-Cyclohexanediol, 2-methylene-5-[(2E)-2-[(1R,3aS,7aR)-octahydro-1-[(1S)-
     2-hydroxy-1-methylethyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-,
     (1R,3R)-  (CA INDEX NAME)

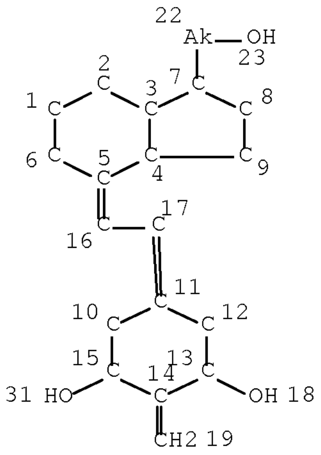
Absolute stereochemistry.
Double bond geometry as shown.
```



```
FILE 'HOME' ENTERED AT 15:46:19 ON 17 DEC 2009
```

SEARCH HISTORY

```
=> d stat que l6; d his nofile
L4                STR
```



```
NODE ATTRIBUTES:
CONNECT IS E2  RC AT  22
DEFAULT MLEVEL IS ATOM
MLEVEL  IS CLASS  AT  22
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  22

STEREO ATTRIBUTES: NONE
L6           28 SEA FILE=REGISTRY SSS FUL L4

100.0% PROCESSED     436 ITERATIONS                           28 ANSWERS
SEARCH TIME: 00.00.01




     (FILE 'HOME' ENTERED AT 14:55:17 ON 17 DEC 2009)

     FILE 'CAPLUS' ENTERED AT 14:55:40 ON 17 DEC 2009
                E US2003-680881/APPS
L1            1 SEA SPE=ON  ABB=ON  US2003-680881/APPS
                D SCA
                E INTESTINE, DISEASE+ALL/CT
                E E2+ALL

     FILE 'REGISTRY' ENTERED AT 14:57:57 ON 17 DEC 2009
L2              STR
L3            0 SEA SSS SAM L2
L4              STR L2
L5            0 SEA SSS SAM L4
L6           28 SEA SSS FUL L4
                SAVE TEMP L6 SOR881FULL/A
     FILE 'CAPLUS' ENTERED AT 15:02:08 ON 17 DEC 2009
L7           89 SEA SPE=ON  ABB=ON  L6

     FILE 'STNGUIDE' ENTERED AT 15:02:19 ON 17 DEC 2009

     FILE 'HCAPLUS' ENTERED AT 15:03:57 ON 17 DEC 2009
L8            1 SEA SPE=ON  ABB=ON  US2003-680881/APPS
L9         1286 SEA SPE=ON  ABB=ON  DELUCA H?/AU
L10          49 SEA SPE=ON  ABB=ON  CANTORNA M?/AU
L11          89 SEA SPE=ON  ABB=ON  L6
L12       71505 SEA SPE=ON  ABB=ON  INTESTINAL DISEASE+OLD,NT/CT
L13       15538 SEA SPE=ON  ABB=ON  INFLAM?/OBI(L)(BOWEL#/OBI OR INTESTINE#/OBI
                )
L14        9083 SEA SPE=ON  ABB=ON  (COLON/OBI OR COLITIS/OBI)(L)ULCER?/OBI
L15       10557 SEA SPE=ON  ABB=ON  CROHN?/OBI
L16       13684 SEA SPE=ON  ABB=ON  COLITIS/OBI
L17          68 SEA SPE=ON  ABB=ON  (L9 AND L10) OR ((L8 OR L9 OR L10) AND
                (L11 OR (L11 AND (L12 OR L13 OR L14 OR L15 OR L16))))
L18          18 SEA SPE=ON  ABB=ON  (L9 AND L10)
L19          11 SEA SPE=ON  ABB=ON  (L9 AND L10 AND L11) OR ((L8 OR L9 OR L10)
                AND L11 AND (L12 OR L13 OR L14 OR L15 OR L16))
L20          13 SEA SPE=ON  ABB=ON  L11 AND (L12 OR L13 OR L14 OR L15 OR L16)

     FILE 'REGISTRY' ENTERED AT 15:40:21 ON 17 DEC 2009
L21             ANALYZE L6 1- LC :       8 TERMS
                D

     FILE 'USPATFULL' ENTERED AT 15:41:22 ON 17 DEC 2009
L22          75 SEA SPE=ON  ABB=ON  L6
L23       24135 SEA SPE=ON  ABB=ON  INFLAM?(2A)(BOWEL# OR INTESTINE#)
L24        6400 SEA SPE=ON  ABB=ON  (INFLAM?(2A)(BOWEL# OR INTESTINE#))/IT
L25       24537 SEA SPE=ON  ABB=ON  CROHN? OR CROHN?/IT
L26       24809 SEA SPE=ON  ABB=ON  COLITIS OR COLITIS/IT
L27        3188 SEA SPE=ON  ABB=ON  (INTESTIN? OR COLON)(3A)ULCER?
L28        3559 SEA SPE=ON  ABB=ON  ((INTESTIN? OR COLON)(3A)ULCER?)/IT
L29          21 SEA SPE=ON  ABB=ON  L22 AND (L23 OR L24 OR L25 OR L26 OR L27
                OR L28)
L30         338 SEA SPE=ON  ABB=ON  DELUCA H?/AU
L31          12 SEA SPE=ON  ABB=ON  CANTORNA M?/AU
L32          20 SEA SPE=ON  ABB=ON  ((L30 OR L31) AND L22 AND (L23 OR L24 OR
                L25 OR L26 OR L27 OR L28))

     FILE 'STNGUIDE' ENTERED AT 15:44:09 ON 17 DEC 2009

     FILE 'HCAPLUS' ENTERED AT 15:44:45 ON 17 DEC 2009
                D QUE NOS L19

     FILE 'USPATFULL' ENTERED AT 15:44:46 ON 17 DEC 2009
                D QUE NOS L29

     FILE 'HCAPLUS, USPATFULL' ENTERED AT 15:44:46 ON 17 DEC 2009
L33          24 DUP REM L19 L29 (8 DUPLICATES REMOVED)
                     ANSWERS '1-11' FROM FILE HCAPLUS
                     ANSWERS '12-24' FROM FILE USPATFULL
                D IBIB ABS HITIND HITSTR 1-11
                D IBIB ABS KWIC HITSTR 12-24

     FILE 'REGISTRY' ENTERED AT 15:45:31 ON 17 DEC 2009
                D STA QUE L6
     FILE 'HCAPLUS' ENTERED AT 15:46:01 ON 17 DEC 2009
                D QUE NOS L20
L34           2 SEA SPE=ON  ABB=ON  L20 NOT L19

     FILE 'USPATFULL' ENTERED AT 15:46:01 ON 17 DEC 2009
                D QUE NOS L29
L35           1 SEA SPE=ON  ABB=ON  L29 NOT L32

     FILE 'HCAPLUS, USPATFULL' ENTERED AT 15:46:08 ON 17 DEC 2009
L36           2 DUP REM L34 L35 (1 DUPLICATE REMOVED)
                     ANSWERS '1-2' FROM FILE HCAPLUS
                D IBIB ABS HITIND HITSTR 1-2

     FILE 'HOME' ENTERED AT 15:46:19 ON 17 DEC 2009
                D STAT QUE L6

=>
```